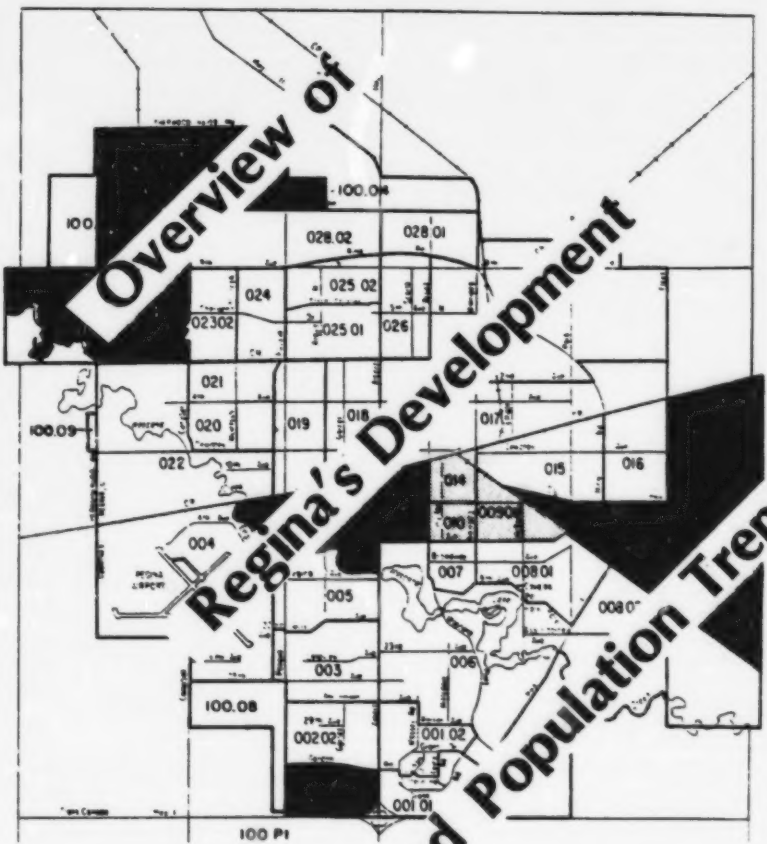
Overview of Regina's Development and Population Trends



City of Regina
Planning Department

OVERVIEW OF REGINA'S DEVELOPMENT AND POPULATION TRENDS

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Abstract:

The report examines present rates of land absorption for development in relation with demographic trends in Regina. It identifies a major underachievement of Concept Plans for the Northwest and Southeast sector. If present trends of development continue, lands will be absorbed sooner and would accommodate smaller population than the expected. That will require excess investment rates in infrastructure and services per capita. To cope with that problem, an alternative to develop the areas in higher densities is suggested. However, a comparison between Prairie cities reveals that Regina has the highest net outmigration rate from older neighbourhoods. This permits another alternative; infill and redevelopment in the inner city to replace an equivalent of 12 years of land absorption in the periphery. A recommendation is stated to establish a Task Force to further review the implications of the changes in population characteristics.

The following statistics represent the major parameters for the analysis:

- Present net density at the Northwest sector is 6.3 dwellings/acre versus 8-10 recommended in the Concept Plan.

- Present net density at the Southeast sector is 4.7 dwellings/acre versus 8-10 recommended in the Concept Plan.

- All available lands in the Northwest will be absorbed by the year 2001 and will accommodate about 30,000 people (instead of 45,000 projected in the Concept Plan).

- All available lands in the Southeast will be absorbed by the year 2001 and will accommodate about 30,000 people (instead of 55,000 - 60,000 projected in the Concept Plan).

- Regina's level of occupancy was 3.22 people per dwelling in 1971. It dropped to 2.73 in 1981 and will continue to drop to 2.45 by 2001.

- The median age of Regina's population was 25.8 in 1976 and increased to 27.9 in 1981.

- Between 1976 and 1981, the relative weight of old neighbourhoods in the City population declined by 19.2%. A major cause of that decline was the net outmigration rate of 9.4% from the declining population areas.

- In Calgary the relative weight of declining population neighbourhoods had been decreased by 23.4%. The major cause of that decline was the growth in the new neighbourhoods which was three times higher than in Regina. Net outmigration in old neighbourhoods in Calgary was only 1.8%.

- The median age in the declining population neighbourhoods in Regina has been increased by 4 years between 1976 and 1981 which was twice as much as the increase for the whole city. The aging was related to age group 45+.

- By the year 2001, the potential for repopulation in declining areas will be 45,000.

Introduction

Earlier in 1982, the City Administration became concerned about current development trends as they were being identified in Northwest and Southeast Regina. This concern was triggered, in part, by the early release to the Administration of the then preliminary population figures for the 1981 Census. As a result of these concerns, the Planning Department initiated a review of development as it has occurred in both the Northwest and Southeast Sectors with the view to establishing some measure of performance relative to the requirements of the Municipal Development Plan. It should be noted that the Sector plans for both areas form part of the Municipal Development Plan and have formed the basis for providing the physical and social infrastructure of the areas in question.

As will be indicated, there is a very strong relationship between the demands for development on the periphery of the city and the dynamics of demographic change within the city as a whole. At this point in time, with the relatively limited information available to us from the 1981 Census, it is possible to speculate upon the likely implications of demographic and development trends into the future. Some of these implications are potentially of great significance to the operation and maintenance of the physical and social infrastructure by all the appropriate agencies.

As the purpose of this report is to analyze and assess current trends of development in the Northwest and Southeast sectors, the direction of inquiry is to answer the question: assuming the current demographic and housing characteristics will prevail - what will be the extent of land absorption, the densities and levels of occupancy in the next twenty years? and what would be the effect of increasing densities and levels of occupancy above present levels on the total number of population accommodated within the City. Is outmigration rate in the inner city high enough to establish an adequate potential for intensive redevelopment there?

The major finding of the analysis is that under present trends - all available lands for development within the concept plans and city limits will be absorbed by the year 2001 and will accommodate a smaller population than previously projected.

In order to prevent further expansion into agricultural land and to avoid unnecessary spending in infrastructure and services - two alternatives are suggested:

a) increasing densities in the expansion areas,
b) new redevelopment and infill projects in the inner city.

It is important to develop a sense and understanding of the demographic changes that have occurred and are continuing to occur within the city since they have very significant implications for the way the City will grow over the next twenty years. At this point in time and with the information available to us it is possible to develop an understanding of the problems and questions that lie ahead and which must be addressed if the City is to maintain orderly growth over the next twenty years or so. The more detailed assessment of these figures and facts will take place in 1983 when the Planning Department will be undertaking a more detailed review of the Municipal Development Plan. At that time, it will be necessary to come to grips with these implications and to develop appropriate policies in response.

The report opens with presentation of definitions and parameters of 'land absorption', 'density' and 'occupancy'. The report then focuses on analysis of the expansion areas - Northwest, Southeast Sectors and other suburban areas. The third part of the report deals with the city as a whole, where the expansion areas are incorporated with older neighbourhoods and together present a balanced picture which is consistent with a general population projection (assuming present trends). It also emphasizes the effect of outmigration in the older neighbourhoods on their relative weight in the city. The concluding section outlines synthesis of the findings together with their implications and suggests issues to be reexamined in more detail as part of the overall review of the Municipal Development Plan.

I. Factual Survey - Definitions and Parameters

In order to understand the dynamics of demographic changes that have occurred as a direct consequence of peripheral development and as well as resulting demographic changes in the overall City, a number of factors were identified that are seen as being key indicators or variables each of which can significantly effect the total population at any one point in the future. Three major factors have been identified, being land absorption, density and occupancy. The first two relate almost exclusively to new peripheral development in the Northwest and Southeast Sectors, whereas the third, occupancy, is a factor in the overall City including the peripheral areas.

a) Land Absorption

This variable considers the amount of land that each year is taken from an agriculture or holding use and is developed for residential purposes (including all the supportive ancillary uses). The annual city-wide absorption rate has been determined as 249 acres, (101 hectares) based upon an analysis of land development over the last five years. Development in the Northwest, Southeast and East areas was examined in detail in arriving at the land absorption rate quoted. The acreage refers to the number of acres for which subdivisions were approved and construction was initiated on the housing. In the Northwest Sector this was taken as being when the PUD development permits had been issued for the individual houses. It should be appreciated that land absorption is, to some extent, a function of density, as well as an indirect function of occupancy. Certainly it is a factor of economic and social patterns and Government interest.

b) Density

Density refers to the number of dwellings that are accommodated on each acre (hectare) of land developed for urban purposes. Gross density refers to all land developed in a neighbourhood including local commercial, parks, roads, and similar lands. Net density refers to just the lands occupied by housing units and local roadways.

In the Northwest Sector, gross residential density averages 5.49 dwelling units per acre (13.56 per hectare) and net density is 6.34 per acre (15.65 per hectare). In the Southeast Sector, gross density is 4.14 units per acre (10.30 per hectare) and net density is 4.70 units per acre (11.61 per hectare).

Glencairn, in the east, has an average gross density of 5.04 units per acre (12.40 per hectare).

c) Occupancy

Occupancy refers to the number of people that, on average, occupy each dwelling unit. The City average is determined by dividing the total City population by the total number of dwelling units. In 1981 the average occupancy per unit for Regina was 2.73. This represents a drop of 0.49 since 1971. It is the current view that this average occupancy figure will likely continue to drop over the next 20 years. It should be noted that the occupancy per dwelling unit varies from area to area within the City and affects even the new expansion areas. Reference to Map 1 and Map 2 will help gain an appreciation of the manner in which the declining occupancy is felt most urgently in the downtown and inner City and progressively less severely out to the peripheral areas. Like the ripples in a pond, declining occupancy can be seen to move progressively outwards from the City centre with each successive census. The overall City decline in terms of occupancy is illustrated by the City average of 2.95 persons per dwelling unit in 1976 dropping to 2.73 in 1981.

II. Expansion Areas

a) Methodology

Taking 'land absorption' and 'occupancy' as variables, different approaches were developed in order to project populations in the areas of growth:

1. Land absorption in the context of each sector means - the same rate of past land absorption in the area will continue in the future, until the area in question is completely developed. This establishes a 'constant land absorption' scenario. This scenario does not take into account the interdependence among expanding areas.

2. Land absorption as a varied portion of the overall demand for lands in the city and subjected to current development rates in different sections of the city (see Table 1). This establishes the changing land absorption scenario. In addition, based on different possibilities of the size of the railway buffer zone in the Northwest sector - two alternatives are developed: a) 1000 feet, b) 500 feet which permits additional 267 acres for development.

Level of occupancy is expressed as a:

1) A constant component in the constant occupancy scenario. This scenario suggests different constant levels of occupancy; 3.3, 3.0, 2.7 and ignores the current dynamics of demography.

2) Level of occupancy is expressed as a changing or declining variable over time. This scenario is based on the declining trends of level of occupancy in Regina . As the average rate of decline in level of occupancy was 0.3 people per dwelling in existing neighbourhoods, (1976 - 1981), and the starting level of occupancy in new neighbourhoods was 3.3 in 1981 - the declining level of occupancy scenario assumed starting level of 3.3 in every new settlement and a decline of 0.3 every five years to a minimum level of 2.4 (which was the 1981 average level of occupancy in residential area around the downtown). In our opinion, the combination of changing land absorption and declining level of occupancy offers the most realistic scenario.

b) Northwest Sector

The Northwest Sector Concept plan calls for the achievement of a number of demographic and physical goals. It also recognizes that the railway location will take place and will contain and curtail urbanization in this direction. The declared population capacity in the Concept Plan is in the range of 45,000 - 50,000 people, with the area being completely developed by the year 2010. In order to accommodate this population within the Northwest Sector, it is necessary to achieve net densities in the range of 8 - 10 units per acre (20 - 25 per hectare) overall.

If development continues at the current gross density of 5.49 dwelling units per acre (15.65 units per hectare)* and assuming that the historic trend in terms of a declining occupancy continues and that the land absorption is modified to reflect available opportunities elsewhere in the City (see tables 4-5 for changing land absorption and declining occupancy scenario), the Northwest Sector area will be completely developed by the year 2001 and will accommodate a population of only marginally over 30,000 people.

This population will be increased by approximately 5,000 people if the 1,000 foot railway buffer strip assumption made in respect to the previous figures is reduced to 500 feet. It means an additional 267 acres (108 hectares) are available for development, to be fully absorbed by the year 2002.

In order to explore the range of population, given the variables of land absorption, occupancy and density, Tables 1 to 2 and 4 to 5 were developed to illustrate the affect of these variables. Map 8 illustrates the projected population changes through phases of development (based on the declining occupancy and changing land absorption scenario).

It is interesting to note that for one additional unit per acre (2.5 units per hectar) there is an increase of some 18% to the total housing stock generated, which in turn will delay full land absorption by 4 years to the year 2005. It would result in an additional population of approximately 6,000 people based on an average occupancy of 3.0 persons per dwelling unit. Table 10 calculates quantities of released lands by the year 2001 should densities be increased from this point in time forward. The Northwest sector would accommodate, for instance, another 16,326 people after the year 2001 for overall density of 9.0 units per acre (22 per hectare), and would accomplish, then, the population target of 45,000 - 50,000 stated in the original concept plan.

c) Southeast Sector

The Southeast Sector Concept Plan calls for a number of neighbourhoods to be created which would house 50-56,000 people well beyond the year 2000. The net densities anticipated to be achieved in the various neighbourhoods varied

* for the Northwest Sector net density = 115.4% of gross density.

substantially, but were generally within the same range as those in the Northwest Sector, namely 8 - 10 units per acre (20-25 per hectare).

If development continues at the current gross density of 4.17 dwelling units per acre (10.3 units per hectare)*, it would appear that all land in the Southeast Sector will be absorbed by the year 2001-2005, depending on what assumptions are made relative to the other factors of occupancy and land absorption. The ultimate population would, in these circumstances, range from 28,200 to 30,700.

The Southeast Sector is also affected by the size of the buffer area in the Northwest Sector. If the 1,000 foot buffer is implemented, all developable suburban lands in the City, including the Southeast Sector, would be absorbed by the year 2001. However, if the smaller 500 foot buffer is implemented, there would likely be 126 acres left for development in the Southeast during the year 2002. Again a number of different calculations were made using different combinations of variables to explore the range of population capacity in that Southeast Sector. Tables 6 to 9 should be examined to better assess the implications of any one factor. Map 9 illustrates the projected population changes through phases of development.

The addition of one dwelling unit per acre (2.5 units per hectare) will add 21% to the total number of housing units provided and will further delay full land absorption by 5 years, namely to the year 2010 in the case of a constant land absorption scenario and by 5 years, to the year 2006 in the case of a changing land absorption scenario. In addition, this would also result in a population increase of approximately 6,500, based on an average household occupancy of 3.0 persons per dwelling unit.

According to above-mentioned Table 10, a gross density of 8.0 units per acre for development starting today, will release 1162 acres for development after the year 2001. This will enable accommodation of about 25,000 people after the year 2001 and its total will accomplish the original aim of the concept plan for populations of 55,000 - 60,000 people.

d) Other Suburban Growth Areas

Table 1 illustrates the likely impact of suburban growth areas in the City, such as Glencairn, Albert Park South, Argyle Park, and Section 33. Because of the smaller land area of these subdivisions, their impact on land absorption in the City will be complete by the year 1991. Tables 11 and 12 consider in greater detail the declining occupancy and changing land absorption scenario in Section 33 located immediately to the south of the Northwest Sector, west of Courtney Street. Tables 13 to 14 demonstrate the equivalent for Glencairn.

III. The Overall City

In this section an effort has been made to examine whether recent trends of land absorption, levels of occupancy and densities can establish a reliable forecast for the entire city which is consistent with a purely demographic basic forecast. In other words, since the base of population analysis in the areas of growth was not purely demographic, but a combination of housing factors, the demand for testing its vialidity is apparent.

A review of the city as a whole will accomplish also the main purpose of this report which is the examination of present trends of development in the areas of growth. The question is not only related to the proper densities to be applied in those areas, but also its pace of development. Does Regina really need to focus most of the future development effort on the city periphery? Has the city fully exploited the potential for redevelopment inside the city? How can the physical and social infrastructure best be maintained and expanded?

a) Methodology

The concept of declining levels of occupancy has been generally adopted for projecting population both for the areas of growth in the city periphery, as described above, and for the older neighbourhoods.

*for the Southeast sector net density = 112.75% of gross density

Between 1976 and 1981 a decline of 0.3 people per unit, down to a minimum level of occupancy of 2.4 in average was detected among census tracts. It was also found that in 1981, new neighbourhoods started their settlement with 3.3 level of occupancy. The projection, therefore, assumes a decline of 0.3 people per dwelling within every 5 years, down to a minimum of 2.4. New development, redevelopment and infill project start with a 3.3 level of occupancy, or 2.0 for senior citizen housing.

The results of this calculation are shown on Table 15: Regina Population 1991 - 2001.

b) Total Population

If available lands will be fully developed by January 2001 (based on 1,000 foot buffer zone at the Northwest), the "usual residence" population of Regina will be 211,890 (or 216,975 "general population"). On average, the annual growth between 1971 and 1981 was 1.57% per annum. The same pattern will be preserved for the population growth between 1981 and 1991 (1.50%) and drop slightly to an annual growth of 1.42%. This is due to a drop in redevelopment and infill projects (see Table 17).

These findings reveal that our population projections in this analysis (which are not purely demographicly based) do not exceed linear forecasts of population growth in the city, ie. it is reasonable in demographic terms.

It is interesting to find that the level of occupancy which was 3.30 in 1971 and declined to 2.73 in 1982 (a decline of 0.5 persons per unit), will continue to decline to 2.56 by 1991 and to 2.45 by 2001, or a total decline of 0.28 within 20 years.

The reason behind the drop in level of occupancy is the fact that the Regina population is aging. Figure 1 illustrates the two periodic age-sex profiles for Regina of 1977 and 1981. There has been a significant drop in the age group 5-19 within that period (10.1%). At the same time, age group 25-34 has substantially increased (by 16.2%), presumably due to the aging of the "baby boom" group. This means that there are more home owners and less children (5-19 years old) per dwelling. This means also declining demand for education facilities and an increasing demand for services designed for ages 25-34. However, in spite of a rise of the median age (from 25.8 to 27.9) the proportion of 35+ age group has not been changed significantly for the city as a whole. The portion of very young children (0-4 years old) has not been changed too notably. Fertility rates remain stable (18.7 birth rate per 1000 people in 1976, and 18.8 in 1980).

c) Declining Population Neighbourhoods

The population of the City of Regina in 1981, according to information generated from Statistics Canada figures, is 162,984. This represents an increase of 8.9% between 1971-81 or 1.5% per annum. The figure is consistent with the most optimistic projections made by the Planning Department in 1976.

While the City as a whole had growth in population, there has been a remarkable population decline observed in significant parts of the City of Regina for the period 1976 - 1981: 26 census tracts containing 71.8% of the entire population of the City in 1976 lost on average 12% of their population. This trend is not entirely surprising, since in the previous 5 years, between 1971 and 1976, 23 census tracts, containing 65.7% of the population exhibited an average decline of 10.8% Map 3 illustrates those census tracts which suffered a decline in population between 1976 and 1981.

Since the number of dwellings in the related census tracts declined marginally, by some 1%, it is apparent that the population decline is related to a decline in dwelling unit occupancy. On average, the older neighbourhoods exhibited a decline of 0.32 persons per dwelling unit between 1976 and 1981, compared to the City average decline of 0.22 persons per dwelling units (from 2.95 - 2.73). Notably, declining occupancy, although not constant, was a characteristic of all areas of the City, both new and old. Maps 1 to 2 illustrate occupancy levels of 1976 and those of 1981.

Perhaps the most significant aspect is the geographic distribution of those census tracts or neighbourhoods that showed declines in the 1976 - 1981 period. Far from being limited to what is called the inner City and the downtown, many of the neighbourhoods between 10 - 15 years old experienced declining populations. Again this is not a complete surprise since these are the very same areas in which declining enrollments have been experienced by the school boards and the same areas in which possible school closures have been discussed. Table 15, the Regina Population Census 1976 - 1981, clearly illustrates the magnitude of the decline in population. Table 16, in addition, demonstrates the related factors projected for 1991 and 2001.

A decline of 0.3 persons per household in the older neighbourhoods is somewhat higher than the decline in fertility rates. Thus, one might conclude that the aging of the population in these areas is largely responsible for the declining occupancy characteristics. (See Maps 3 to 4 which illustrate the projected levels of occupancy in the city in 1991 and 2001 and Maps 5 to 6 which reflect the parallel population changes.) It should be noted that the population impact of Saskatchewan Housing Corporation's (SHC) infill housing is not evident in the 1981 Census since few, if any, of the projects were occupied at the time of the census.

It is of some interest to make comparisons with other prairie cities. Reference to Table 19, Prairie Metropolitan Population Change 1976 - 1981, will reveal that Regina grew more slowly at 8.9% than Edmonton, Calgary or Saskatoon. Only Winnipeg, with a growth of 1.2% over the same five year period, had a slower growth rate. When comparing the same cities for the percentage of the population residing in census tracts that exhibited a declining population during the recorded period, Regina was the second highest at 68.1% after Saskatoon at 73.1%, and followed very closely by Winnipeg at 68.0%. Examination of the average percentage decline in those census tracts showing a decline in population indicates that Regina leads in this category with an average decline of 12%, followed by Winnipeg with a decline of 10.3% and Saskatoon with a decline of 9.7%.

The reason for the decline in level of occupancy in the inner city is the aging phenomenon in these areas. A comparison between periodic age-sex profiles for the related areas - 1976 and 1981 (see figure 2) reveals a change from 26.5 median age to 30.3. That is four years in total that this area has grown older in comparison to two years for the whole city. (see figure 1). Moreover, as previously noted, no significant change in the population of the city as a whole shows for age group 35+, however, there was a significant change in the older ages. The relative weight of the population older than 25 years in the declining neighbourhoods had been increased by 9.9%. At the same time, the younger populations up to 25 years old had been decreased by 11.4%. An interesting phenomenon is revealed in the comparison between the two population profiles of 1976 and 1981. If we follow the same population comprising the age group 20 - 24 in 1976 as becoming age group 25 - 29 in 1981, we will find a significant drop in their numbers. In absolute terms - the same population which was 13,384 in 1976 had declined to 7,752 in 1981. This will lead us to discuss later the issue of neighbourhood outmigration.

A third figure of age-sex profile (figure 3), compares the population in the growing areas with the population in the increasing areas (where the population has been increased between 1976 and 1981). The comparison reveals a dramatic difference. The increasing population areas have two dominant age groups (0-9 and 20-35, or young children and young parents.) The teen age group is relatively small and so is the older age groups above 35. In comparison, the declining areas population has only one dominant age group, 15-24 while population of the age group 25-34 is relatively smaller in comparison to the growing area. This may suggest that the members of this age group, as soon as they become parents, are moving out to the newer areas.

The comparision shows also that the young age group 0-9 is almost two times larger, in relative terms, in the increasing areas, while 45+ age groups is about three times smaller there.

A review of the geographical distribution of the average income per adult (15+) reflects a correlation with the changes of the total population; when average income in increasing population areas was $14,812, areas with declining population had an average of $13,336 (total average was $13,884). Areas which had experienced an intense decline of population (15% and above), had an average income of only $11,740 (map 4).

Areas of low income are associated with intense population decline together with the phenomenon of aging as discussed above. In other words - there is a development of geographical polarization in socio-economic terms. In addition, map 5 suggests geographic polarization in terms of "blue collar" vs "white collar" occupations; the geographical polarization here is rather a deviation of north-south (mainly divided by College Avenue with the exception of the Transitional Area). Areas of declining population, however, have a relatively high rate of blue collar occupations.

d) Decline of Relative Weight of Neighbourhood and Neighbourhood Outmigration

The relative weight or importance of inner city neighbourhoods in relation to the total city population has been significantly declining between 1976 - 1981. This phenomenon of neighbourhood decline has a great importance to planning issues and therefore it raises the need to further investigate its causes and its applications, specifically for the purposes stated in this report. Is the decline of the relative weight of the inner city a result of the population increase in other areas, or is it a consequence of its high outmigration rate? The importance of that in the framework of this report is that for a situation in which a decline of relative weight of the inner city is due to a significant expansion of the city - the planning application will be the need to strengthen the services in the expansion areas. However, if the decline is due to a rapid outmigration from the inner city, this will indicate a loss of potential for development inside the city in terms of underused infrastructure and services. The rapid land absorption projected in the Northwest and Southeast Sectors will be percieved not only as a result of using lower densities, but also as a result of loss of potential inside the city. We need, therefore, to measure the decline inside the city in terms of neighbourhood outmigration rates.

To measure a net outmigration rate in a neighbourhood, we have to follow the population residing in the same area from starting point of time to a target date. We also need to know the size of the population relative to the city population in the starting point so we can identify the loss the city had in overall terms. For instance, in overall terms, an equivalent volume of outmigration for equivalent neighbourhood population will have a different magnitude in a small city compared to a larger one. Furthermore, since we are dealing only with outmigration from time A to time B, we do not want to mix that with contradicting phenomena such as immigration into other areas in the city. Therefore, we will ignore the total city population in time B. Total city population in time B includes immigration population arrived between time A and time B. In overall city terms, net neighbourhood outmigration is 0% when there has been no population decline in any neighbourhood, or 100% when the city has been deserted. (See Appendix A)

Table 19 expresses the two parameters of decline; relative change of weights of declining areas between 1976 and 1981, and the net neighbourhood outmigration between 1976 and 1981. This is applied to five cities in the Prairies, and to Regina for two periods, 1971 - 1976, and 1976 - 1981. The table demonstrates the difference of the two measurements. While declining population areas in Calgary lost 23.4% of their relative weight in the city, Regina decline, in these terms, was only 19.2%. However, the net neighbourhood outmigration rate of Calgary was only 1.3% during the five years when Regina had experienced 9.4% net outmigration which was the highest among the Prairie cities. It is obvious, therefore, that the high growth rate in Calgary (5% annual) is the cause for the decline of older neighbourhoods' relative weight. In contrast, in Regina, the high net outmigration rate in older neighbourhoods affected their relative weight decline.

Regarding the change of outmigration rates for Regina during two periods 1971 and 1976 to 1981, it is found that the net outmigration rate has been substantially increased from 5.0% to 9.4%.

The dramatic increase of net neighbourhood outmigration rate in Regina from one period to another, and its high rate relative to other Prairie cities, emphasizes the loss of potential for housing development in the inner city.

The decline, as stated previously, was only marginally effected by housing demolitions (1% in total in the related area). The major result was the decline in level of occupancy. In 2001 the declining area will have a level of occupancy of 2.33. This will be in spite of infill and redevelopment projects which will have higher levels of occupancy (see Table 18). If the infrastructure and services in these areas can support a population residing at a level of occupancy of 2.95, which prevailed in 1976, this means a loss of potential for 45,015 people. In other words, in order to maintain equivalent population capacity prevailing in 1976, the City would need to add 15,259 dwelling units (at 2.95 level of occupancy) to the 72,716 units in the declining areas. This will save 3052 acres from development in the Northwest and Southeast sectors, or will delay full land absorption by twelve years (under present trends of land absorption), to the year 2013.

e) Declining Level of Occupancy

In 1981 the overall level of occupancy per unit was 2.73 in Regina. This was a drop of 0.49 from 3.22 since 1971. Overall occupancy level will likely continue to drop to 2.56 by 1991 and by 0.11 to 2.45 per unit in 2001 (see Table 16).

In terms of locational distribution of levels of occupancy, an interesting picture arises in viewing the trends between 1976 and 1981 (maps 1 and 2). The level of occupancy in 1976 varied from low 1.2 in the downtown to high 4.0 in Whitmore Park South. By 1981 lower categories of level of occupancy overlapped their neighbouring census tracts reflecting a general decline in level of occupancy. At the same time the high levels of occupancy found in the periphery of the city in the 1976 census (between 3.5 and 4.0) did not exist in 1981.

This trend will likely continue through 1991 and 2001 in spite of redevelopment and infill projects in old neighbourhoods (maps 6 and 7).

Map 3 illustrates the trends in declining areas between 1976 and 1981. An increase took place in the city periphery, west of McCarthy Boulevard, outside the Ringroad and in Albert Park south. The neighbourhoods inside the periphery had a significant decline in population. This geographic distribution creates an inner declining population centre and an outer increasing population belt.

By 1991 (map 8) there will be likely 3 areas of population change in the city. The centre of the city, representing a growing population area due to redevelopment, the encircling belt representing a declining population, and the city periphery, comprising areas in the Northwest and Southeast sectors, Glencairn and Albert Park South, representing a growing population circle. By 2001 the occupancy per dwelling will likely be stable at 2.4 in most areas inside the Ringroad (map 9). Declining population will take place outside of the Ringroad and south of Gordon Drive. Population increase at the lower occupancy rate will occur in new developing areas in the Northwest and Southeast sections.

Conclusions

There has been considerable underachievement in terms of development in the Northwest Sector and Southeast Sector relative to their respective Sector plan goals. Without further policy intervention in terms of increasing density of new development on the periphery, all the available developable land will be essentially developed by the year 2001. A major implication of current trends, if allowed to continue unconstrained, would be a significant underachievement in the numbers of people housed in the two major respective areas. This will likely have significant implications for both the physical and social infrastructure to be planned and provided in these areas. Within the context of the overall City, the peripheral areas are demanding more services sooner than was anticipated and, given the dynamics of demographic change as highlighted in the 1981 census, the older population in the older City is concurrently not able to support those same social facilities (schools, etc.).

It is the opinion of the Administration that the Planning Commission must seriously consider recommending to City Council whatever policy and regulatory steps that may be reasonable to reduce the rate of absorption of peripheral land to a practicable rate which recognizes all interests. This last point is particularly important if there is to be any opportunity for a future cycle of population to use more effectively the existing housing stock that is represented in the older City. If at some point in the future these housing units are missing from the community, it will be doubly more difficult to put into place policies designed to attract younger family households (i.e. with children) to repopulate those areas that are presently showing a declining population and under-ocuppancy.

Some assessment has been made as to the approximate numbers of additional units that could be created in the older City, being primarily the redevelopment of the CN Yards, the CP Yards, infill housing in the Inner-City generally, and higher density development in the Transitional area and the downtown. It is estimated that an additional 3,000 units could be created by 1991 with a further 2,300 units being added by the year 2001.

Reference to Table 17 would indicate that if the average annual growth rate of 1.5% is maintained to the year 2001 along with the continuing decline in the level of occupancy, the City's population would be between 212,000 and 217,000. These figures have been reconciled with the population increases forecast for the peripheral residential development areas.

The task, therefore, in 1983 will be to further develop these figures together with additional information as becomes available from Statistics Canada on the 1981 Census, and to review their implications in terms of the Growth Management Strategy Plan that was formulated and embodied in the Regina RSVP document. Since many agencies and interests will be effected by the outcome of this review, it would seem appropriate that a steering committee should be established to work with the Planning Department to better understand these figures and to further develop policies relative to Growth Management. It is suggested that in addition to the obvious in-house departments, such as Public Works and Engineering, Parks and Recreation, Buildings and Civic Properties, that interested agencies such as the two school boards and the development industry (HUDAC, CMHC and SHC) might well be represented.

Post Script

The Task Force on Population and Planning was set up in early 1983 and is studying the implications of the findings of this report as a technical steering committee for the Municipal Development Plan Review.

GD/bv/ym/0086D
Attachments.

APPENDIX, TABLES

MAPS, AND FIGURES

Appendix A

Index of Net Neighbourhoods Outmigration measures the annual population decline of neighbourhoods (DN) in relation to their original population volume (DN) and to their original weight in the city. The minimal value of the scale is 0% where there has been no net outmigration in any neighbourhood in the city. The maximal value of the scale is 100% where there has been a maximum outmigration in every neighbourhood in the city. For example, in a city, a population decline (net outmigration) is detected among several neighborhoods. It is found that between 1976 and 1981, these neighbourhoods had lost 1/2 of their population. The same neighbourhoods composed 1/2 of the total population in 1976. Therefore, within five years the city had experienced a neighbourhood net outmigration of 1/2 x 1/2 x 100 = 25%, or 5% per annum. Suppose the same neighbourhoods had experienced a total loss of their population, then the net outmigration rate in the city would be 1/1 x 1/2 = 50% in five years. In this regard, when a city is being deserted outmigration is 1/1 x 1/1 = 100%.

$$\text{NND (annual)} = \frac{\Sigma DN1}{P1} \cdot \frac{\Sigma DNt - \Sigma DN1}{\Sigma DN1 \cdot t} \quad ©$$

t = number of years measured from origin year 1.

DN = declining population neighbourhood, when DN1 represents its population in year 1, and DNt is its population in year t.

P1 = population of the city in origin year 1.

Σ (sigma) = sum of group of numbers

Table 1

Projection of Land Absorption by Development Destinations*

	1982-1986	1987-1991	1992-1996	1997-2001(a)	1997-2001(b)
North West	397	541	660	125	392
Section 33	199	133	0	0	0
South East	352	480	585	979	853
Glencairn	189	91	0	0	0
Albert Park	59	0	0	0	0
Argyle Park	49	0	0	0	0
TOTAL	1245	1245	1245	1104**	1245

* Based on constant 249 acres of City and absorption per annum or 1245 acres per five years.

** Deficite of 141 acres by the year 2001.

TABLE 2

North West Section: Constant Occupancy Constant Land Absorption*

	1981	1986	1991	1996	2001(a)	2001(b)
acres	304	884	1464	2027	2027	2294
dwellings (density = 5.49)	1671	4853	8037	11128	11128	12594
1. population (occupancy = 3.3)		16015	26522	36722	36722	41560
2. population (occupancy = 3.0)	5195	14559	24111	33384	33384	37782
3. population (occupancy = 2.7)		13103	21700	30046	30046	34004

TABLE 3

North West Section: Constant Occupancy Changing Land Absorption

	1981 **	1986	1991	1996	2001(a)	2001(b)
acres	304	701	1242	1902	2027	2419
dwellings (density = 5.49)	1671	3851	6821	10444	11130	13282
1. population (occupancy = 3.3)	5195	12708	22509	34465	36722	43831
2. population (occupancy = 3.0)	5195	11553	20463	31332	33384	39846
3. population (occupancy = 2.7)	5195	10398	18417	28199	30046	35861

*Based on last 5 years average of land absorption in the area.

** The area was already partially developed in 1981. Census 1981 indicates a population of 5195 people residing in 1671 dwellings. (occupancy - 3.1) Based on existing densities, the populated area was 304 acres.

TABLE 4

North West Section: Declining Occupancy Changing Land Absorption

	1981	1986	1991	1996	2001(a)	2001(b)
acres	304	701	1242	1902	2027	2294
dwellings (density = 5.49)	1671	3851	6819	10444	11130	12594
population	5195	11873	20519	30763	30395	35232

TABLE 5

North West Section: Illustrating Declining Occupancy Scenario

Starting Settlement - Date	Acres (Totals)	Acres (Cumulative)	1981	1986	1991	1996	2001(a)	2001(b)
1981	304	304	5195(3.1)	4679(2.8)	4178(2.5)	4011(2.4)	4011(2.4)	4011(2.4)
1986	397	701		7193(3.3)	6540(3.0)	5886(2.7)	5232(2.4)	5232(2.4)
1991	541	1242			9801(3.3)	8910(3.0)	8019(2.7)	8019(2.7)
1996	660	1902				11956(3.3)	10869(3.0)	10869(3.0)
2001(a)	125	2027					2264(3.3)	2264(3.3)
2001(b)	392	11130						4837(3.3)
Total population (cumulative)			5195	11872	20519	30763	30395	35232

Figures in brackets represent level of occupancy.

Please note: In every scenario, one additional unit per acre will add 18% to the total units and will delay full land absorption by 4 years to the year 2005. This will result in an additional population of approximately 6000, based on an average occupancy of 3.0.

TABLE 6

South East: Constant Occupancy Constant Land Absorption*

	1981	1986	1991	1996	2001
acres	107	622	1137	1652	2167*
dwellings (density = 4.17)	448	2594	4741	6889	9036
population (occupancy = 3.3)	1141	8560	15645	22734	29819
population (occupancy = 3.0)	1141	7782	14223	20667	27108
population (occupancy = 2.7)	1141	7004	12801	18600	24397

*Full land absorption by year 2005.

TABLE 7

South East: Constant Occupancy Changing Land Absorption

	1981	1986	1991	1996	2001(a)	2001(b)
acres	107	459	939	1524	2503**	2377
dwellings	448	1916	3918	6357	10439	9914
population (occupancy = 3.3)	1141	6323	12929	20978	34449	32716
population (occupancy = 3.0)	1141	5748	11754	19071	31317	29742
population (occupancy = 2.7)	1141	5173	10579	17164	28185	26768

**Full land absorption

Please note: One additional unit per acre will add 21% to the total units and will delay full land absorption by 5 years to the year 2010 in the constant land absorption scenario, or by 4 years to the year 2005 in the changing land absorption scenario. This will result in additional population of approximately 6500 based on an average occupancy of 3.0.

TABLE 8

South East Section: Declining Occupancy Changing Land Absorption

	1981	1986	1991	1996	2001(a)	2001(b)
acres	107	459	939	1524	2503*	2377
dwellings (density = 4.17)	448	1916	3918	6357	10439	9914
population	1141	5874	12041	19049	30746	29013

*Full land absorption

TABLE 9

South East Section: Illustrating Declining Occupancy Scenario

arting ttlement Date	Acres (Totals)	Acres (Cumula-tive)	1981	1986	1991	1996	2001(a)	2001(b)
981	107	107	1141(2.6)	1030(2.4)	1030(2.4)	1030(2.4)	1030(2.4)	1030(2.4)
986	352	459		4844(3.3)	4404(3.0)	3964(2.7)	3523(2.4)	3523(2.4
991	480	939			6607(3.3)	6006(3.0)	5405(2.7)	5405(2.7
996	585	1524				8049(3.3)	7317(3.0)	7317(3.0
01(a)*	979	2503					13471(3.3)	-
01(b)*	853	2377					- -	11738(3.3
tal population (cumulative)			1141	5874	12041	19049	30746	29013

gures in brackets represent level of occupancy.

* related to alternatives suggested for the North West Sector senario: (a) buffer zone of 1000 ft. will require additional lands on the expense of the South East Section and will establish a deficite of 141 acres by the year 2001, (b) buffer zone of 500 ft. will consume only 853 acres and leave 126 acres for future development.

Table 10

Effect of Increasing Densities on Total Population*

Density	Released lands and additional Population**					
	Northwest		Southeast		Total	
	Acres Saved	Additional Population Permitted	Acres Saved	Additional Population Permitted	Acres Released	Population
5.0			357	4,820	357	4,820
6.0	147	2,382	714	11,568	861	13,950
7.0	372	7,028	970	18,333	1342	25,361
8.0	541	11,688	1162	25,096	1703	36,784
9.0	672	16,326	1311	31,860	1983	48,186
10.0	778	21,010	1430	38,610	2208	59,620

* This table calculates the amount of lands still abailable for development after the year 2001 should an increase of densities take place.

** Based on 2.7 level of occupancy.

TABLE 11

Section 33 North West: Declining Occupancy Changing Land Absorption

	1986	1991	1996	2001
acres	199	133	-	-
dwellings	745	496	-	-
population	2459	3872	3500	3127

Table 12

Section 33

1986	1991	1996	2001
2459 (3.3)	2235(3.0)	2012(2.7)	1788(2.4)
-	1637(3.3)	1488(3.0)	1339(2.7)
2459	3872	3500	3127

TABLE 13

Glencairn East (east of Fleet Street) Population

Changing Land Absorption Declining Occupancy Rate

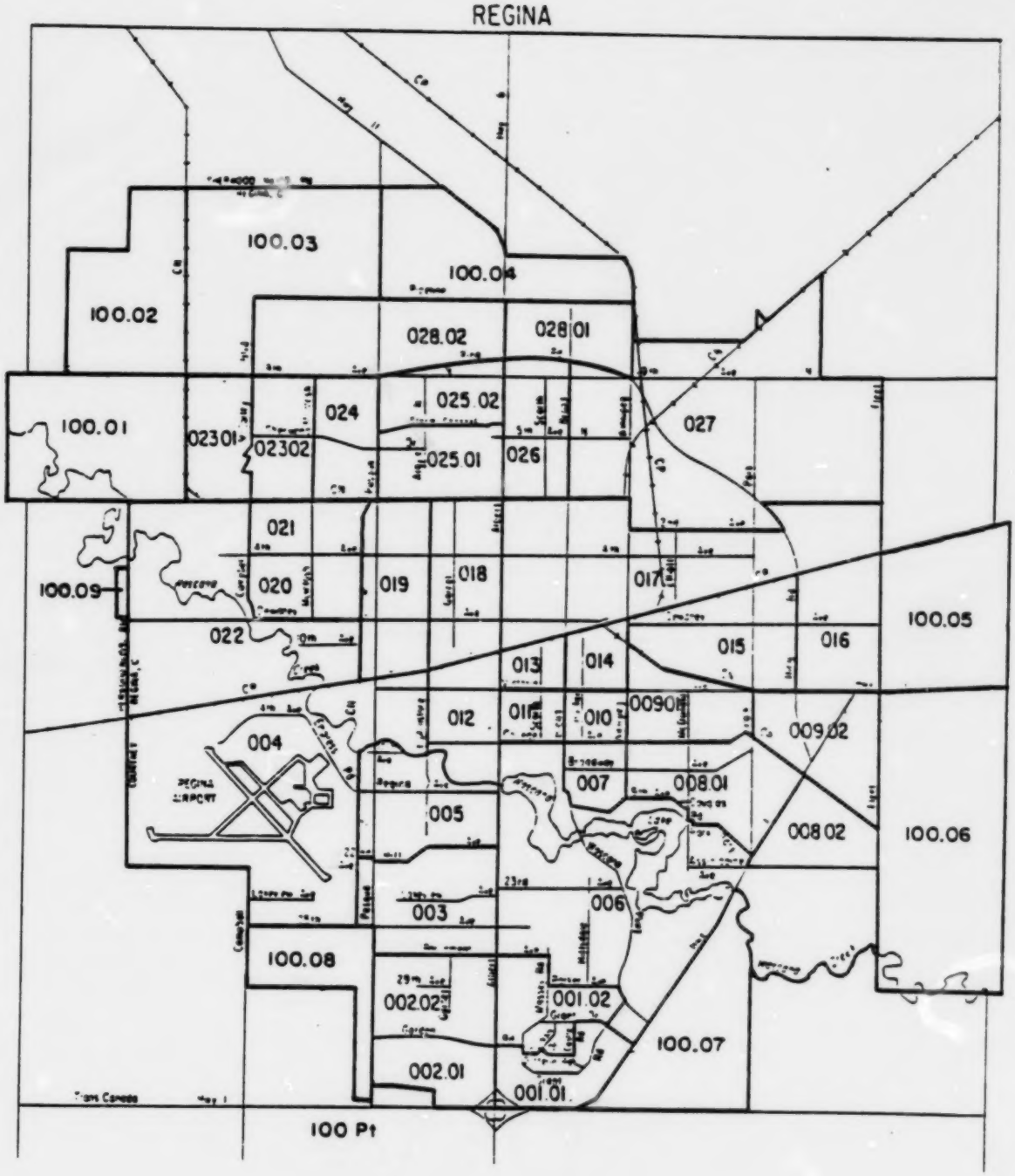
	1981	1986	1991	1996	2001
acres	311	500	591	591	591
dwellings (density = 5.04)	1259	2212	2671	2071	2071
population	4124	6922	7773	6972	6442

*based on 5.04 units per acre

TABLE 14

Glencairn: Illustrating Declining Occupancy Scenario

Starting Settlement Date	Acres (Totals)	Acres (Cumulative)	1981	1986	1991	1996	2001
1981	311	311	4124 (3.3)	3777 (3.0)	3399 (2.7)	3022 (2.4)	3022 (2.2)
1986	189	500		3145 (3.3)	2859 (3.0)	2573 (2.7)	2287 (2.4)
1991	91	591			1515 (3.3)	1377 (3.0)	1239 (2.7)
1996	0	591				0	0
2001	0	591				0	0
Total population (cumulative)			4124	6922	7773	6972	6442



Regina C.T. (census tract) map

C.T. 100.00 has been subdivided

TABLE 15: REGINA POPULATION CENSUS 1976 - 1981: CITY LIMIT MODIFICATION

Census Tract***	Neighbourhood	Population 1976	Population 1981	Change	Dwellings 1976	Dwellings 1981	Occupancy 1976	Occupancy 1981
1.01	Whitmore Park South	4581	4131	- 9.8	1125	1159	4.0	3.5
1.02	Whitmore Park North	5097	4455	- 12.6	1485	1550	3.4	2.9
2.01	Albert Park South	2002	3733	86.6	2940	3841	2.9	2.6
2.02	Albert Park North	7131	6832	- 4.2				
3.00	Parliament Place	6309	5593	- 11.4	2225	2222	2.8	2.5
4.00	CPR Annex	2408	2073	- 13.9	875	850	2.7	2.4
5.00	Lakeview	5472	4920	- 10.1	1870	1837	2.8	2.5
6.00	Hillsdale	6323	6180	- 2.3	2030	2387	3.0	2.5
7.00	Glander Park	1880	1789	- 4.8	645	779	2.8	2.2
8.01	Douglas Park	7565	6548	- 13.4	2670	3241	2.9	2.8
8.02	University Park	371	2686	624.0				
9.01	Broders Annex	5217	4435	- 15.0	2680	2803	2.7	2.5
9.02	Gardiner Park	2269	2584	13.9				
10.00	General Hospital	3035	2802	- 7.7	1425	1425	2.1	1.9
11.00	Transitional Area	4083	3300	- 19.2	2735	2472	1.5	1.3
12.00	Cathedral	6420	5342	- 16.8	2820	2472	2.2	2.1
13.00	Downtown	612	192	- 68.9	325	97	1.2	1.2
14.00	11th Avenue East Area	2449	1992	- 18.7	1105	858	2.1	2.2
15.00	Innismore - Glenelm	3095	2582	- 16.6	885	852	3.5	3.0
16.00	Glencairn West	5807	6703	15.4	1545	1994	3.7	3.3
17.00	Eastview - Warehouse	2545	2162	- 15.1	760	713	3.3	3.0
18.00	Albert - Scott	7160	6022	- 15.9	2470	2297	2.9	2.6
19.00	Exhibition	5388	4713	- 12.5	1900	1852	2.8	2.5
20.00	Rosemont South	3915	3477	- 11.2	1305	1346	3.0	2.6
21.00	Rosemont North	3044	2751	- 9.6	985	1010	3.1	2.7
22.00	Dieppe Place	8066	8265	2.5	2115	2450	3.3	3.0
23.01	Normanview West	1770	4074	130.2	1930	2656	3.6	3.2
23.02	Normanview East	5353	4682	- 12.5				
24.00	Regent Park	4158	3697	- 11.1	1055	1077	3.9	3.4
25.01	Coronation Park South	4912	4382	- 10.8	1460	1537	3.3	2.8
25.02	Coronation Park North	4347	3836	- 11.8	1255	1317	3.4	2.8
26.00	Highland Park	3906	4248	8.8	1205	1702	3.2	2.4
27.00	Churchill Downs-Ross	4534	4072	- 10.2	1270	1304	3.5	3.1
28.01	Uplands South	3448	3605	4.6	1935	3516	3.6	3.5
28.02	Argyle Park	3626	8752	141.2				
*100.01	Normanview Annex		2542			765		3.3
*100.02	Sherwood Estates	5	2475	2000+**	5	811	1.0	3.0
*100.03	McCarthy Park		2720			860		3.1
*100.04	Uplands North	200	2629	1314.5	60	811	3.3	3.2
*100.05	Glencairn East	850	4124	485.2	255	1259	3.3	3.2
*100.06	Wood - Meadows	0	27	2000+**	0	10	0	0
*100.07	Plains Health Centre	0	12	2000+**	0	1	0	0
*100.08	Lewvan Park	240	730	304.2	65	262	3.6	2.7
*100.09	Dieppe Annex	0	115	2000+**	0	37	0	3.1
TOTAL		149,593	162,984	8.9	49,415	58,431	2.9	2.79
R.M. of Sherwood		1,598	1,329	-16.8	385	409	3.4	3.6
Regina Census Metropolitan		151,191	164,313	8.7	49,800	58,840	2.95	2.73

* Census tracts 100.01 to 100.08 are the Planning Department's subdivision of City areas defined by Statistics Canada as census tract 100.00 which includes the population of the R.M. of Sherwood

** Change is above 2000%

*** refer to map of Census Tract on previous page

TABLE 16: REGINA POPULATION 1991 - 2001

Census Tract	HOUSEHOLD POPULATION* 1991 (June) Total	1991 (June) change from 1981	2001 (January) * Total	2001 (January) * change from 1991	DWELLINGS 1991	DWELLINGS 2001	OCCUPANCY 1991	OCCUPANCY 2001
1.01	3396	-17.0	2782	-18.1	1159	1159	2.9	2.4
1.02	3720	-15.9	3720	0	1550	1550	2.4	2.4
2.01	3997	+ 8.1	3905	- 2.3	1585	1619	2.5	2.4
2.02	6149	- 2.9	6149	0	2562	2562	2.4	2.4
3.00	4888	-11.7	4888	0	2222	2222	2.2	2.2
4.00	2086	+ 1.8	2159	+ 3.5	864	900	2.4	2.4
5.00	4409	- 7.2	4409	0	1837	1837	2.4	2.4
6.00	5729	- 2.4	5729	0	2387	2387	2.4	2.4
7.00	1699	0	1939	+14.1	779	859	2.2	2.3
8.01	5969	- 8.2	5969	0	2487	2487	2.4	2.4
8.02	2285	-14.1	1832	-19.8	754	754	3.0	2.4
9.01	4379	0	4379	0	1835	1835	2.4	2.4
9.02	4123	+61.9	3763	- 8.7	1568	1568	2.6	2.4
10.00	2734	0	2794	+ 2.2	1425	1435	1.9	1.9
11.00	4057	+26.3	5482	+35.1	2722	3222	1.5	1.7
12.00	7290	+38.4	8395	+15.5	3163	3494	2.3	2.4
13.00	1137	+871.8	1887	+66.0	617	797	1.8	2.4
14.00	1877	0	1877	0	858	858	2.2	2.2
15.00	2075	+18.2	2069	- 0.3	862	862	2.4	2.4
16.00	5701	-14.4	5065	-11.2	2046	2098	2.8	2.4
17.00	1733	-18.9	1762	+ 1.7	713	730	2.4	2.4
18.00	6211	+ 4.6	6089	- 2.3	2417	2537	2.6	2.4
19.00	4445	- 4.3	4445	0	1852	1852	2.4	2.4
20.00	3230	- 6.3	3230	0	1346	1346	2.4	2.4
21.00	2424	-11.2	2424	0	1010	1010	2.4	2.4
22.00	5880	-19.8	6504	+10.6	2450	2658	2.4	2.5
23.01	3324	+17.7	2849	-14.3	1187	1187	2.8	2.4
23.02	4626	-19.2	4462	+18.7	1749	1809	2.6	2.5
24.00	3940	-17.7	3776	+29.4	1357	1502	2.9	2.5
25.01	3689	-15.2	3689	0	1537	1537	2.4	2.4
25.02	3161	-15.0	3161	0	1317	1317	2.4	2.4
26.00	4085	0.3	4085	0	1702	1702	2.4	2.4
27.00	3260	-19.3	3130	- 4.0	1304	1304	2.5	2.4
28.01	2994	-24.8	2400	-11.0	989	989	2.7	2.4
28.02	8256	- 5.1	7363	-10.8	2883	3031	2.9	2.4
100.01	6468	+154.4	5373	-17.0	2177	2177	3.0	2.5
100.02	6143	+148.2	13956	+127.2	2163	4388	2.8	3.2
100.03	13248	+387.1	10909	-17.7	4314	4314	3.1	2.5
100.04	3270	+24.4	7492	+129.1	1153	3239	2.8	2.3
100.05	7773	+88.5	6442	-17.1	2671	2671	2.9	2.4
100.06	9478	+200.0 ***	28437	2000+***	2974	9495	3.2	3.0
100.07	0	0	0	0	0	0	0	0
100.08	629	-13.8	629	0	262	262	2.4	2.4
100.09	93	-19.1	89	- 4.3	37	37	2.5	2.4
Total Usual Residents	186040	+15.8	211890	+13.9	72777	86599	2.56	2.45

*Note the difference between household and general population see table 17
**Full absorption of lands presently designated for residential development

***change is above 2000%

Table 17

Regina Population 1971 - 2001

	Household Population	General * Population	Level Of Occupancy	% Annual Growth (5 yrs. base)	%Annual Growth (10 yrs. base)
1971 (June)	137,260	139,465	3.30		
1976 (June)	147,040	149,593	2.95	1.41	1.57
1981 (June)	160,446	162,984	2.73	1.72	
1986 (June)	172,250	176,384	2.65	1.5	
1991 (June)	185,743	190,200	2.56	1.5	1.57
1996 (June)	202,505	207,365	2.51	1.8	
2001 (January)**	211,890	219,024	2.45	1.1	1.42

* Including household population and institutional population
** Full land absorption

TABLE 18

HOUSING INFILL AND REDEVELOPMENT

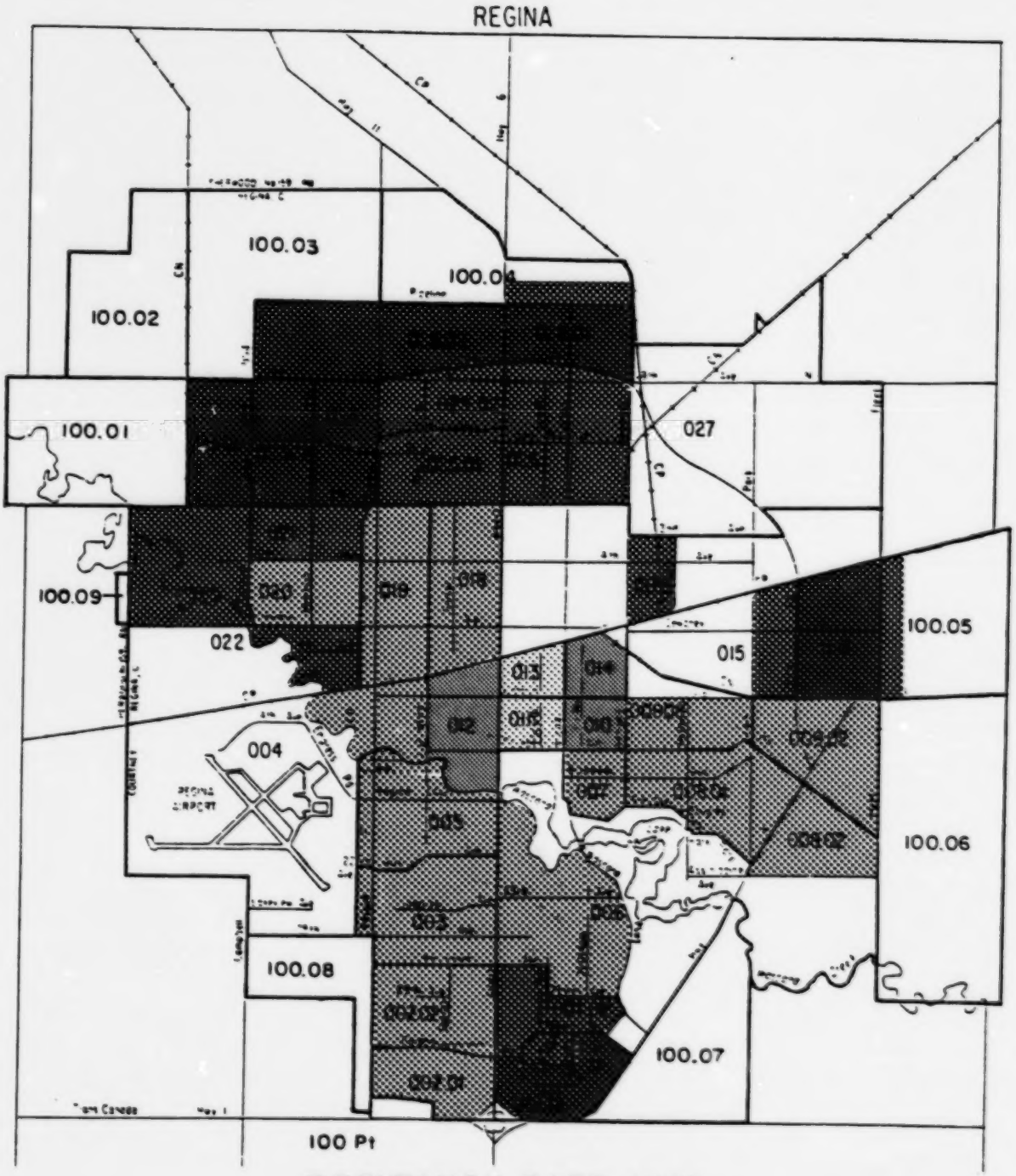
C.T.	Neighbourhood	1991	2001
2.01	Albert Park South	309	31
4.00	CPR Annex	14	36
7.00	Gladmer Park	-	80
9.02	Gardiner Park	104	-
10.00	General Hospital	-	20
11.00	Transitional Area	250	500
12.00	Cathedral	619	475
13.00	Downtown	520	180
15.00	Innismore - Glenelm	10	-
16.00	Glencairn West	52	52
17.00	Eastview - Warehouse	-	17
18.00	Albert - Scott	120	120
22.00	Dieppe Place	-	208
23.02	Normanview East	280	60
24.00	Regent Park	280	145
28.02	Argyle Park	356	148
100.01	Normanview Annex	171	-
TOTAL		3085	2314
		5399	

Table 19

	Winnipeg	Edmonton	Calgary	Saskatoon	Regina(76-81)	Regina(71-76)
Population 1981	584,842	657,057	592,743	154,210	162,984	149,593 (1976)
Population 1976	578,217	556,270	471,397	133,793	149,593	139,465 (1971)
% change	1.2	18.1	25.7	15.3	8.9	7.3
Total 1981 population residing in the declining areas	352,690	336,720	167,402	88,316	102,960	98,226
% weight of 1981 population residing in declining areas	60.3	51.2	28.2	57.3	63.2	65.7
Total 1976 population resided in declining areas of 1981	393,188	368,807	173,474	97,803	117,033	105,266
% weight of 1976 population resided in declining areas of 1981	68.0	66.3	36.8	73.1	78.2	75.4
% relative change of weight of declining areas from 1976 - 1981	-11.3	-22.8	-23.4	-21.6	-19.2*	-12.9
% net neighbourhood outmigration between 1976 and 1981	- 7.0	- 5.8	- 1.8	- 7.1	- 9.4**	. 5.0

* $19.2 = \frac{63.2 - 78.2}{78.2} \cdot 100$

** $9.4 = \frac{368,807}{556,270} \cdot \frac{336,720 - 368,807}{368,807} \cdot 100$

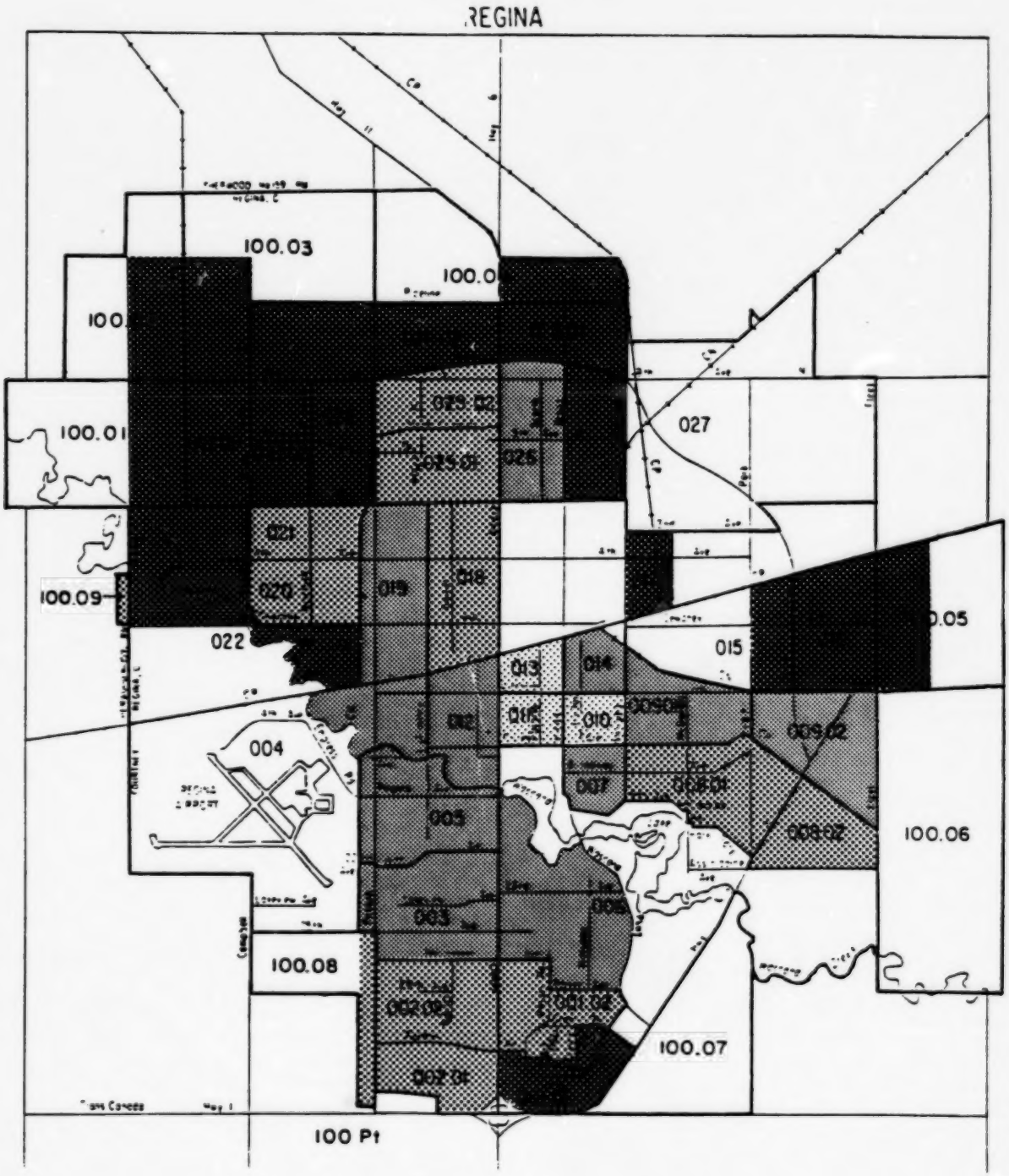


OCCUPANCY RATE 1976

LEGEND

- 0.1 - 2.0
- 2.1 - 2.5
- 2.6 - 3.0
- 3.1 - 3.5
- 3.6 - 4.0

Map 1

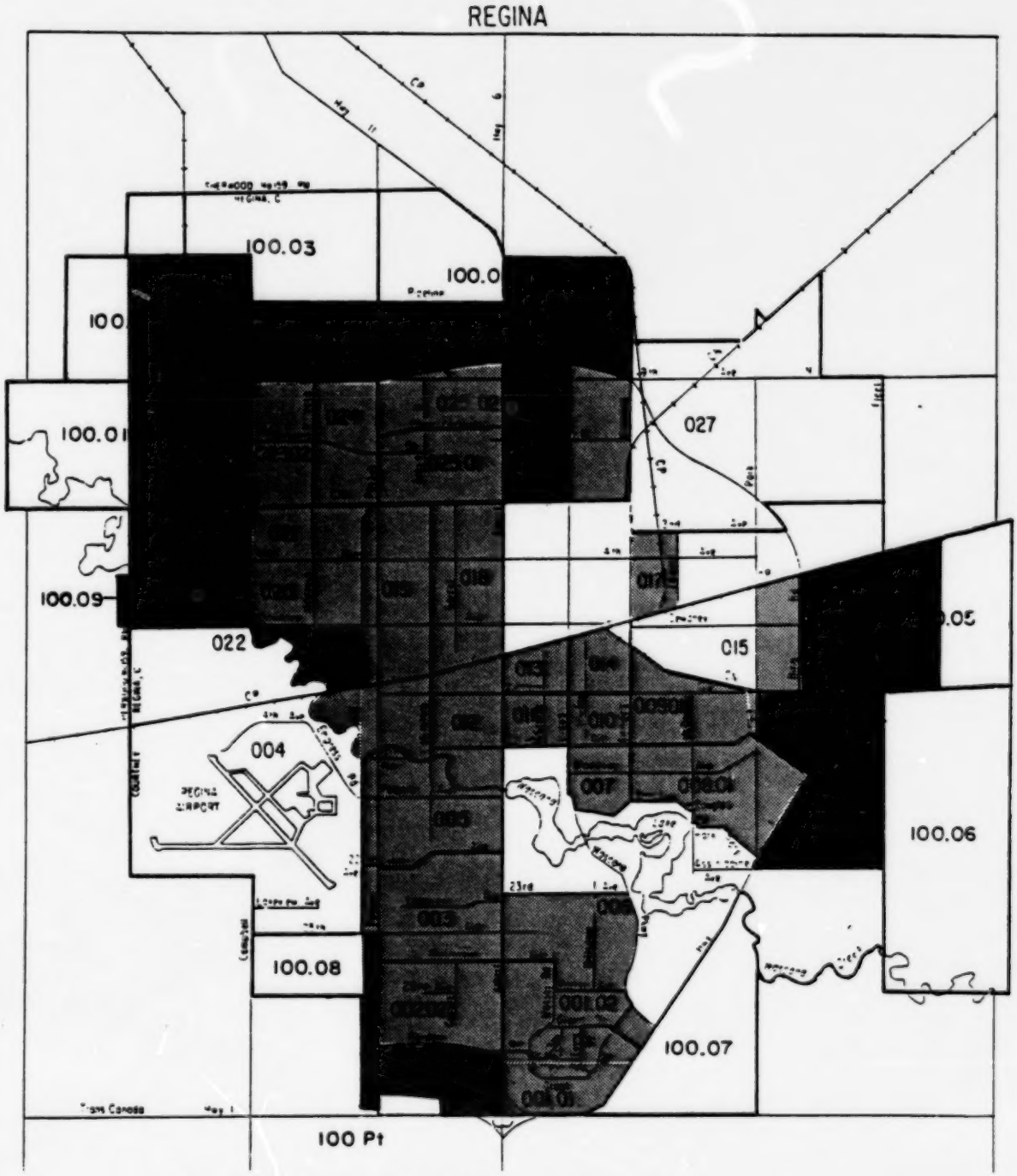


OCCUPANCY RATE 1981

LEGEND

- 0.1 - 2.0
- 2.1 - 2.5
- 2.6 - 3.0
- 3.1 - 3.5

Map 2



CHANGING POPULATION 1976–1981

LEGEND:

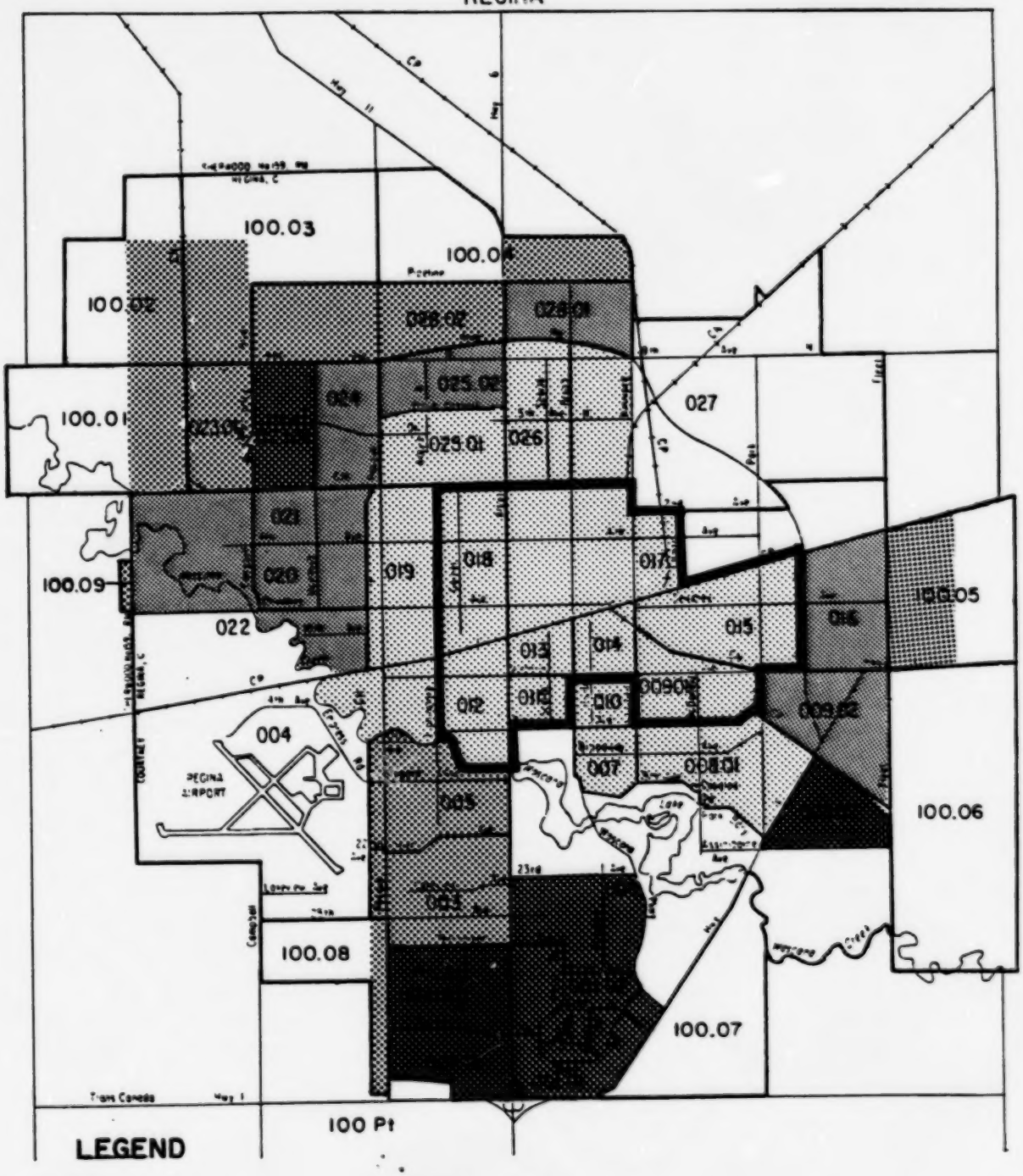
Increasing Population

Decreasing Population

Map 3

DISTRIBUTION OF AVERAGE INCOME PER ADULT (15+)

REGINA

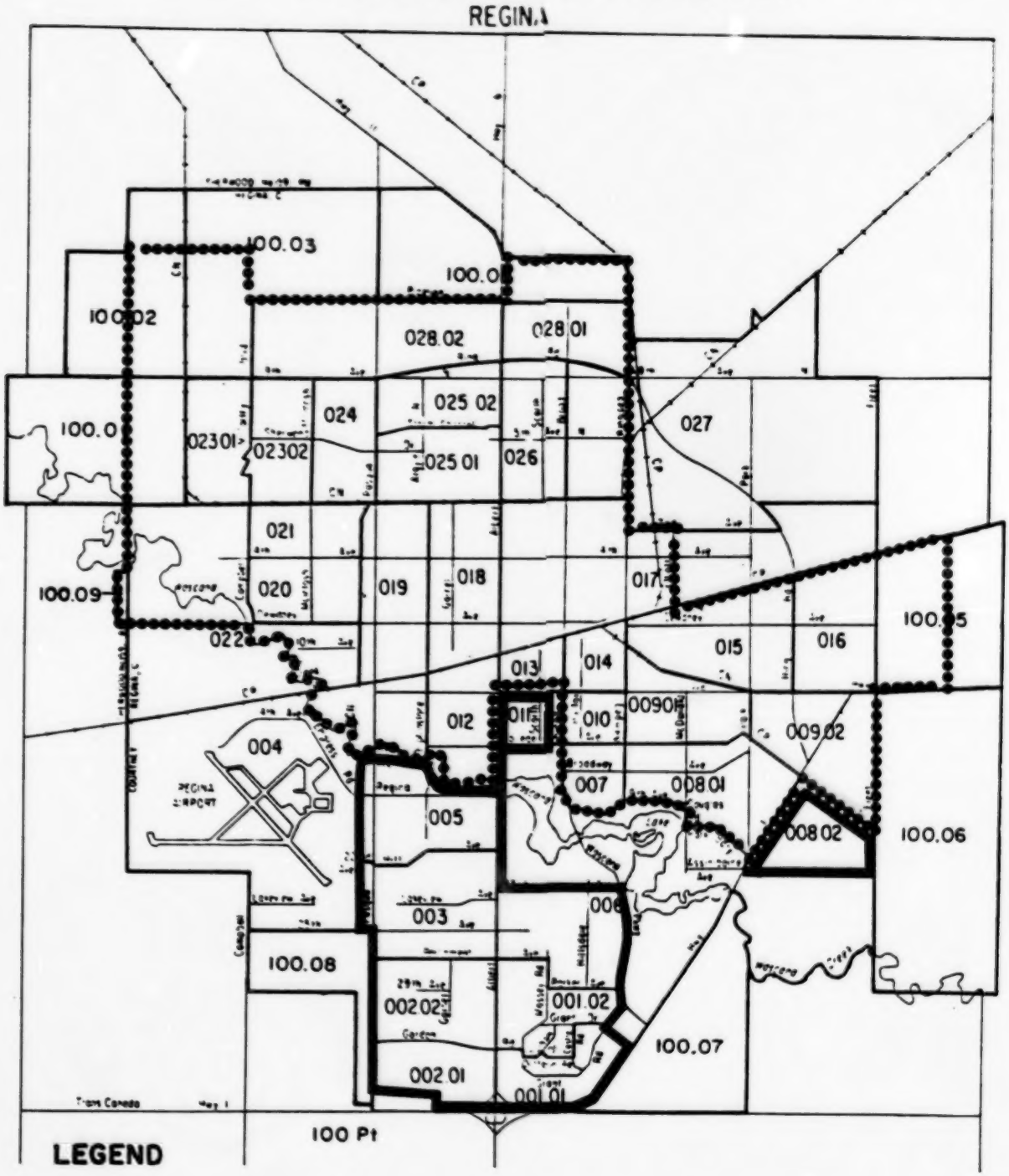


LEGEND

- 18,000-19,999
- 16,000-17,999
- 14,000-15,999
- 12,000-13,999
- LESS THAN 11,999
- AREA WITH INTENSE POPULATION DECLINE (15% PLUS)

Map 4

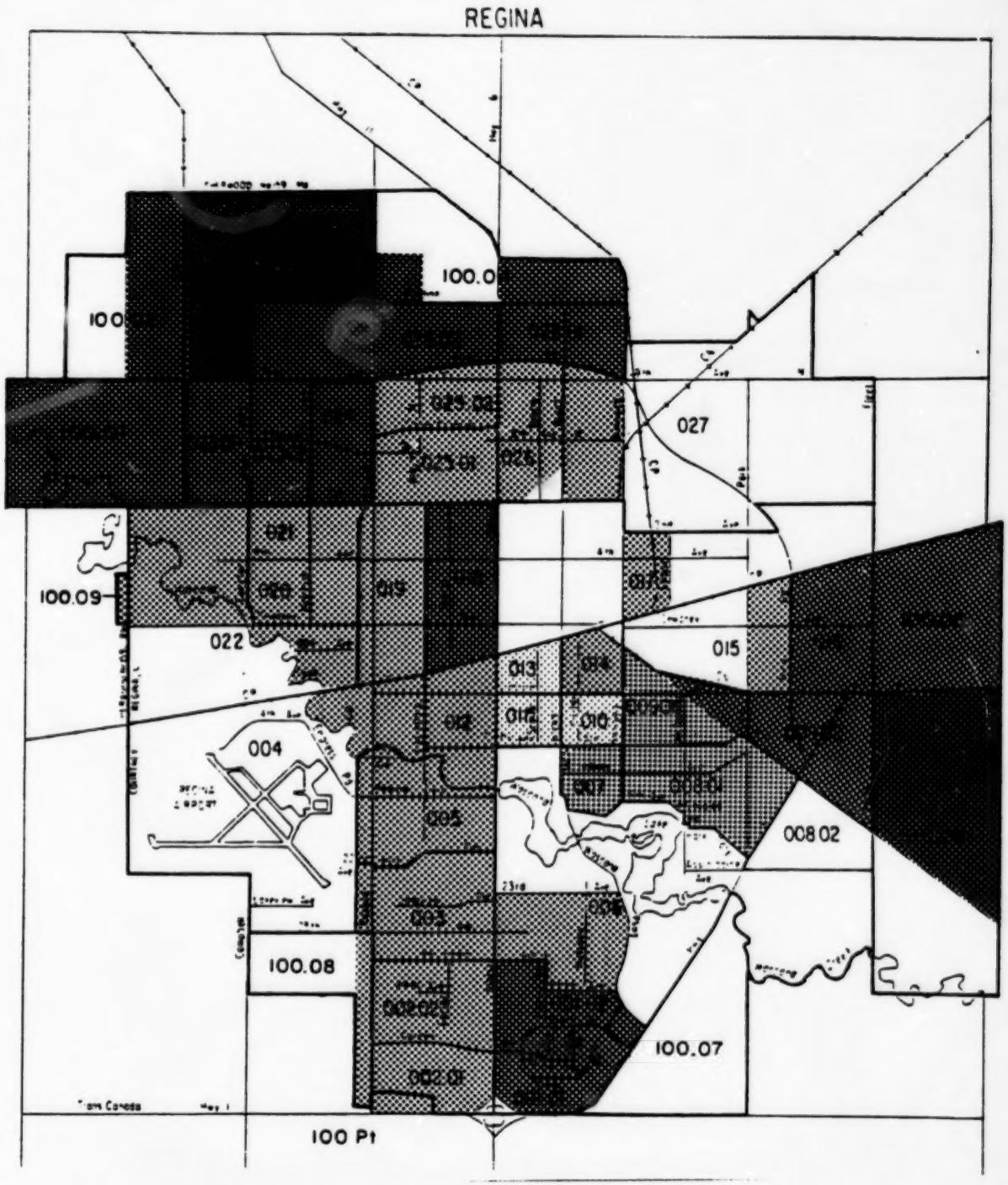
1981 OCCUPATION DISTRIBUTION



AREA WITH LESS THAN 20% BLUE COLLAR OCCUPATIONS AND MORE THAN 80% WHITE COLLAR OCCUPATIONS

AREA WITH MORE THAN 20% BLUE COLLAR OCCUPATIONS AND LESS THAN 80% WHITE COLLAR OCCUPATIONS

Map 5

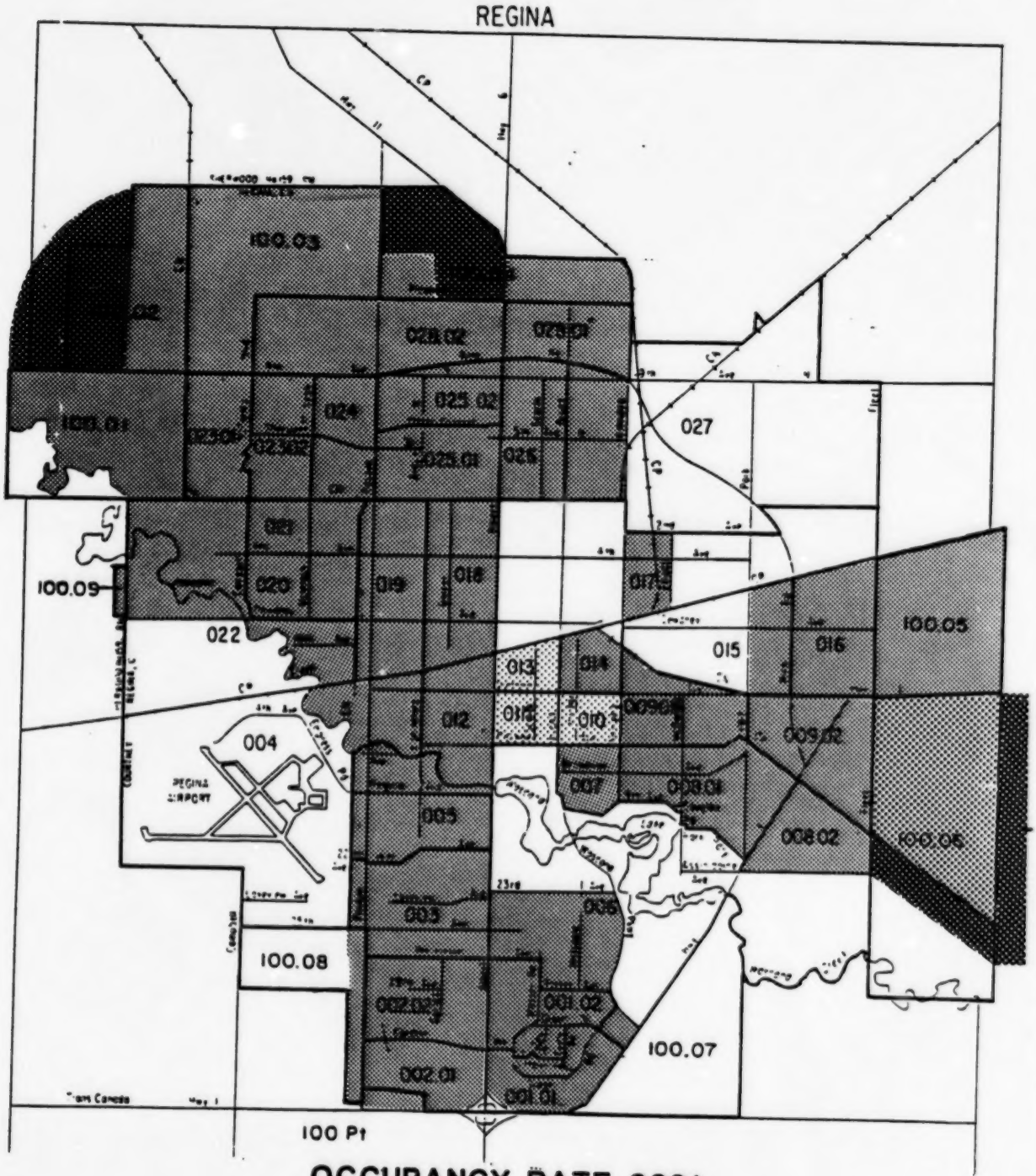


OCCUPANCY RATE 1991

LEGEND

- 0.1 - 2.0
- 2.1 - 2.5
- 2.6 - 3.0
- 3.1 - 3.5

Map 6

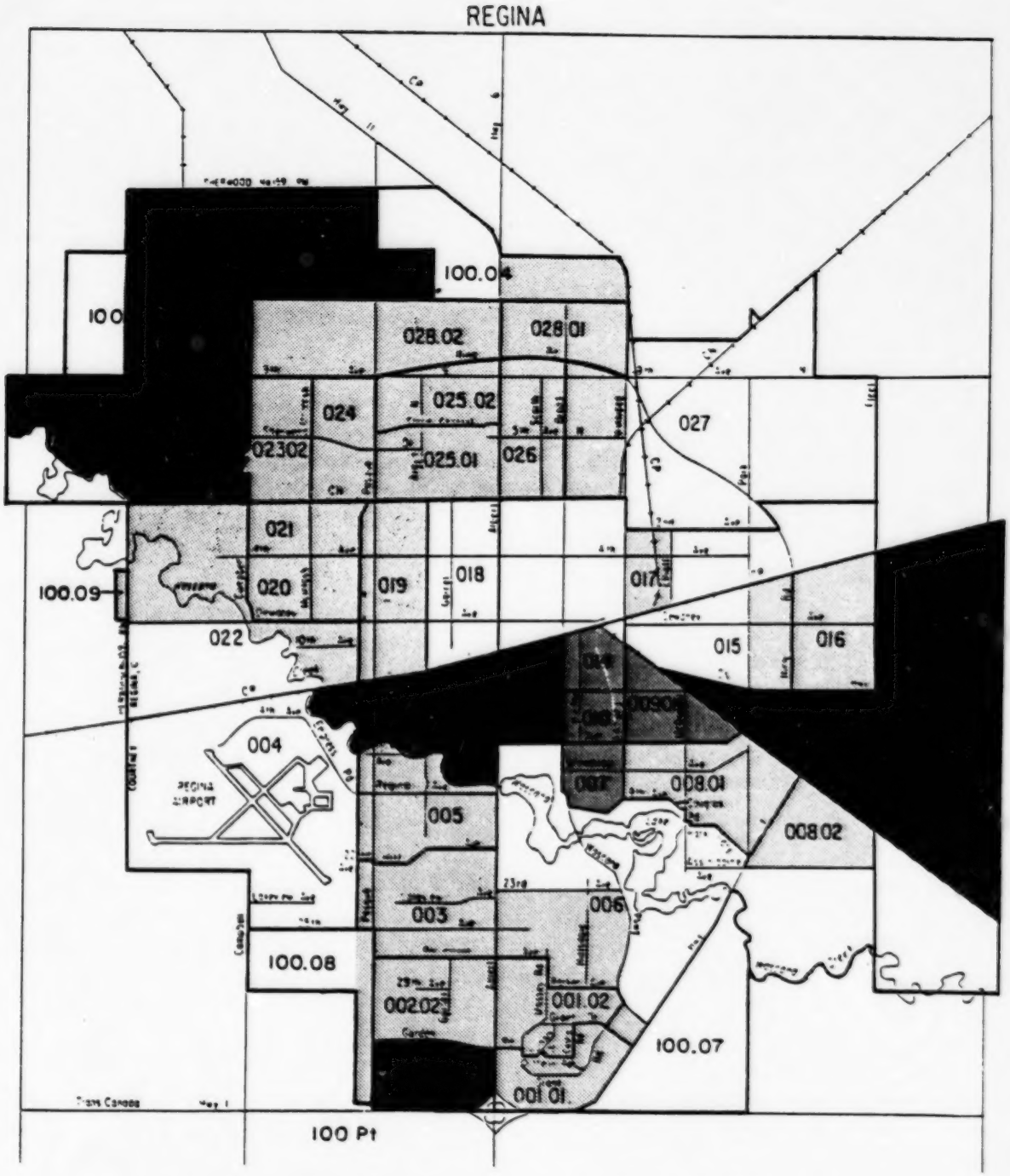


OCCUPANCY RATE 2001

LEGEND-

- 0.1 - 2.0
- 2.1 - 2.5
- 2.6 - 3.0
- 3.1 - 3.5

Map 7

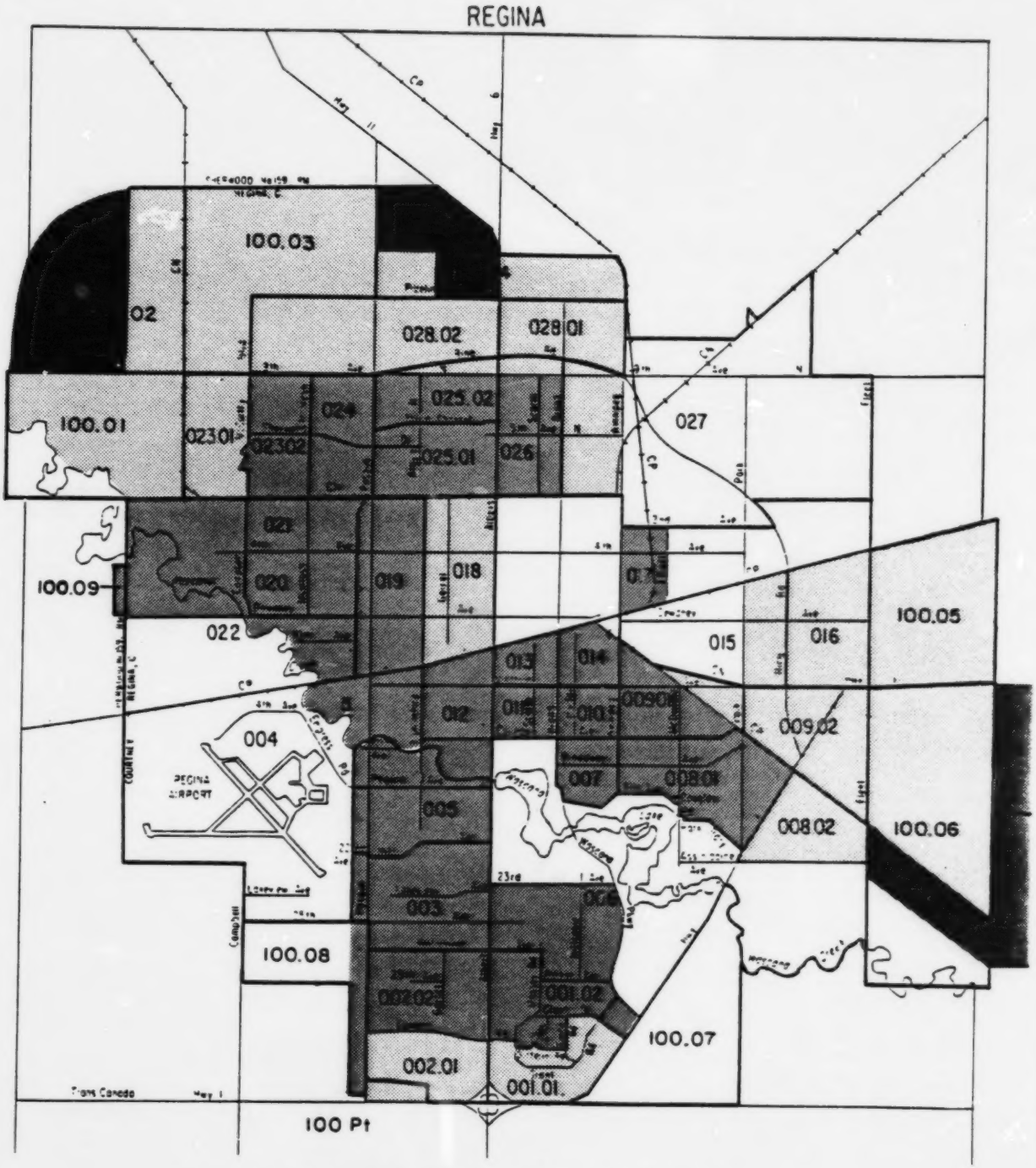


CHANGING POPULATION 1981-1991

LEGEND:

- Increasing Population
- Stable at minimum occupancy
- Decreasing Population

Map 8



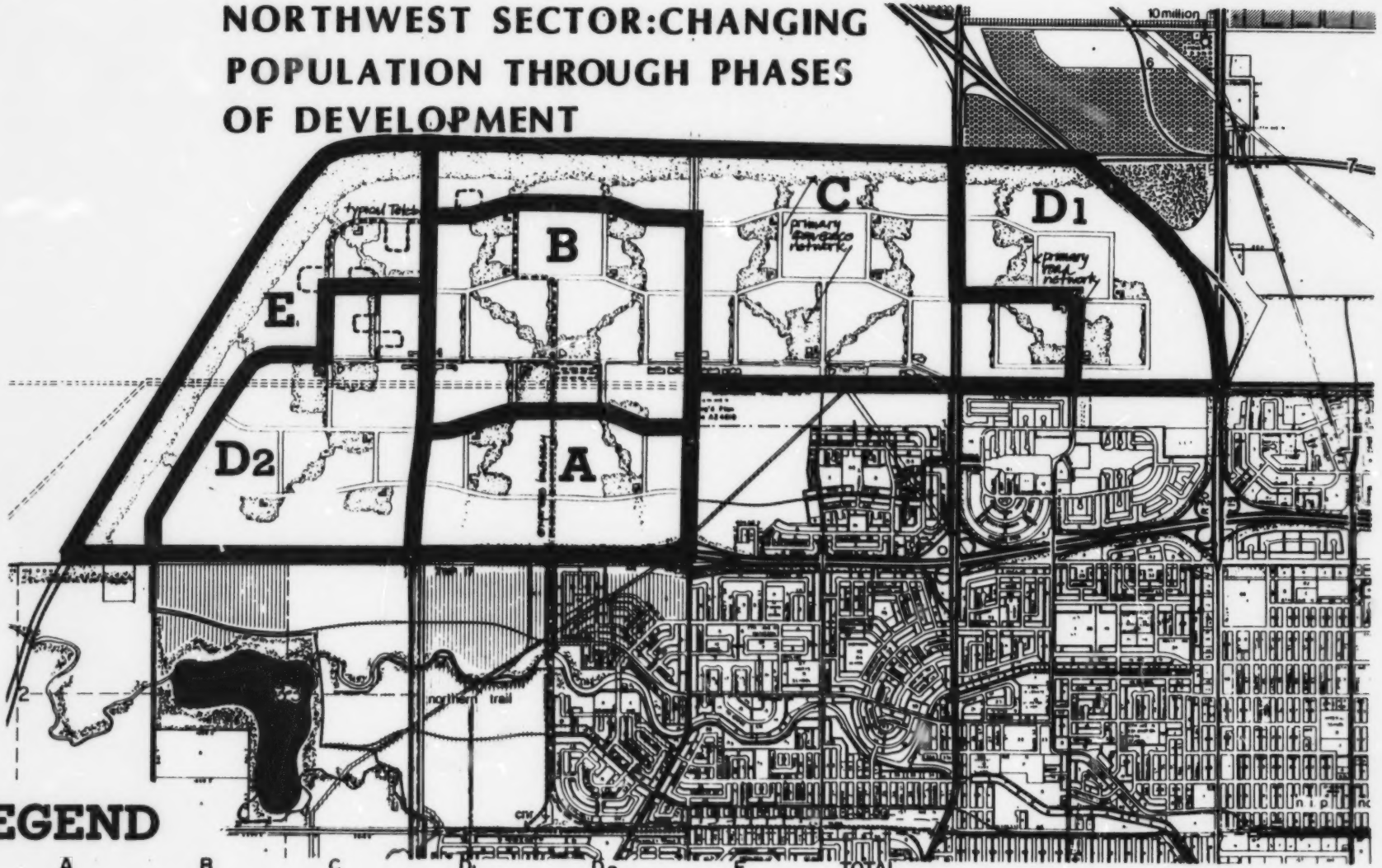
CHANGING POPULATION 1991–2001

LEGEND:

- Increasing Population
- Stable at minimum occupancy
- Decreasing Population

Map 9

NORTHWEST SECTOR: CHANGING POPULATION THROUGH PHASES OF DEVELOPMENT



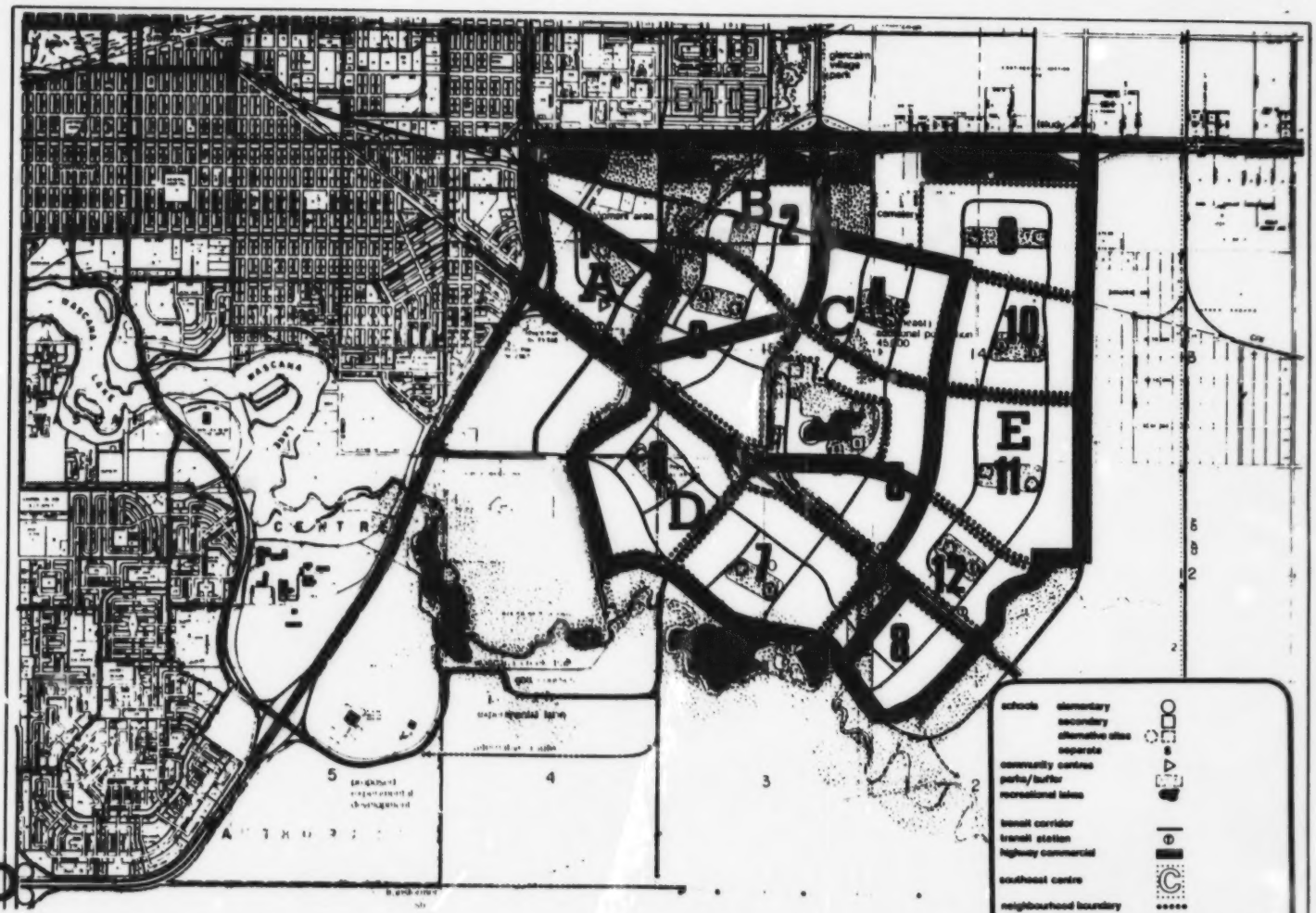
LEGEND

A	B	C	D1	D2	E	TOTAL
1981 - 5195						1981 - 5195
1986 - 4679	1986 - 7193					1986 - 11,872
1991 - 4178	1991 - 6540	1991 - 9801				1991 - 20,519
1996 - 4011	1996 - 5886	1996 - 8910	1996 - 6883	1996 - 5073		1996 - 40,428
2001 - 4011	2001 - 5232	2001 - 8019	2001 - 6257	2001 - 4612	2001 - 2264	2001 - 30,395

BASIC NETWORKS
(CONCEPTUAL)

Map 10

SOUTHEAST SECTOR: CHANGING POPULATION THROUGH PHASES OF DEVELOPMENT



LEGEND

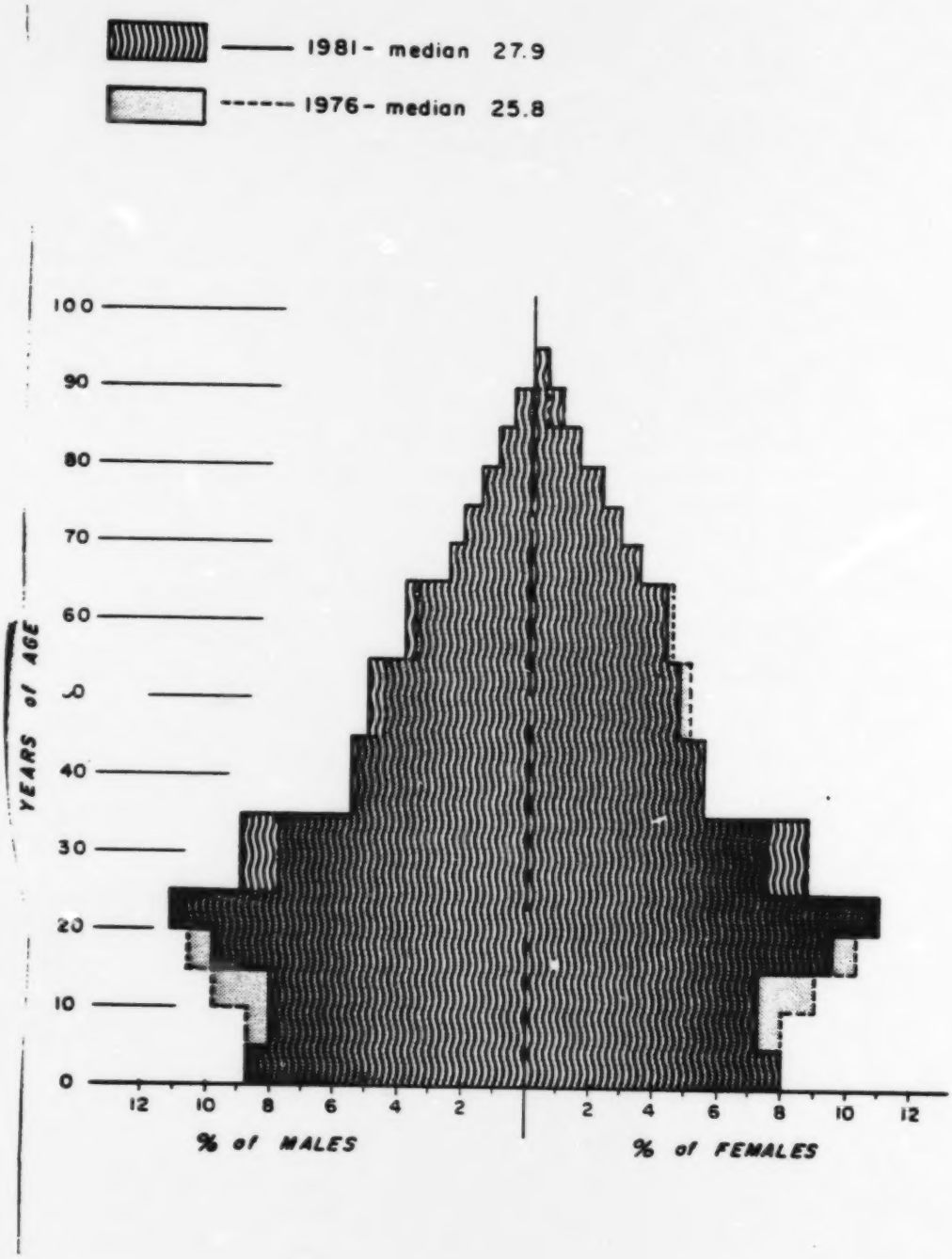
A	B	C	D	E	TOTAL
1981 - 1141					1981 - 1141
1986 - 1030	1986 - 4844				1986 - 5874
1991 - 1030	1991 - 4404	1991 - 6607			1991 - 12,041
1996 - 1030	1996 - 3964	1996 - 6007	1996 - 8049		1996 - 19,049
2001 - 1030	2001 - 3523	2001 - 5405	2001 - 7317	2001 - 13,471	2001 - 30,746

schools: elementary, secondary, alternative sites, separate
community centres
parks/buffer
recreational lakes
transit corridor
transit station
highway commercial
southeast centre
neighbourhood boundary
community shopping

NEIGHBOURHOODS PLAN

REGINA SOUTHEAST SECTOR CONCEPT PLAN

Map 11

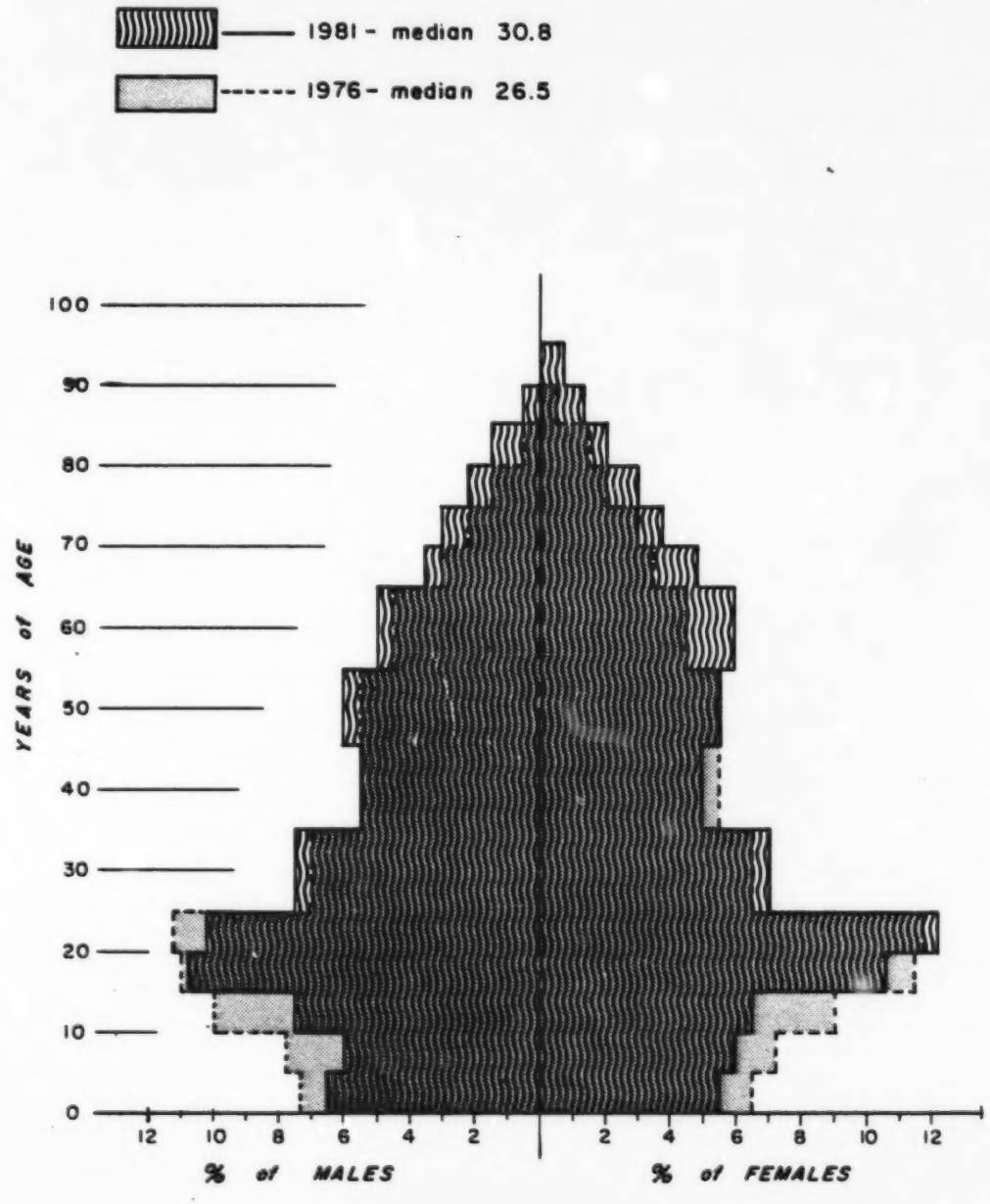


CITY OF REGINA PLANNING DEPARTMENT

DATE _____

FIGURE 1

AGE - SEX PROFILES FOR REGINA
AN OVERLAY OF POPULATIONS 1976-1981

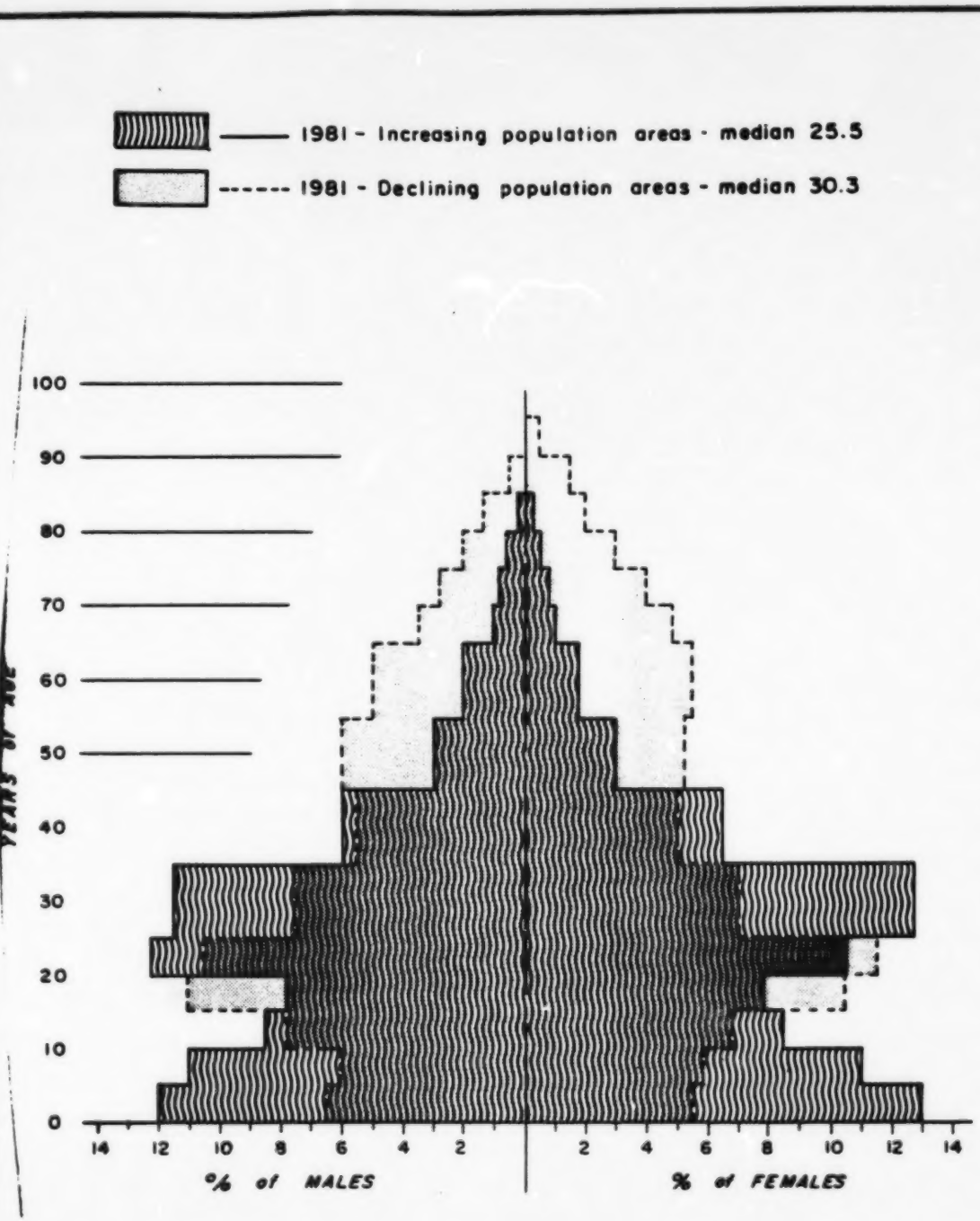


CITY OF REGINA PLANNING DEPARTMENT

DATE _____

FIGURE 2

AGE - SEX PROFILES FOR DECLINING POPULATION AREAS BETWEEN 1976-1981



CITY OF REGINA PLANNING DEPARTMENT

DATE _____

FIGURE 3

AGE - SEX PROFILES 1981·
DECLINING POPULATION AREAS V.S.
INCREASING POPULATION AREAS